

INSIGHT

Lessons learned: Delivering value from government investment in major projects

Cross-government

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National Audit Office

Lessons learned: Delivering value from government investment in major projects

Cross-government

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

16 February 2024

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Introduction

1 Government invests substantial resources – money, time and effort – in major projects. As at March 2023, the Government Major Projects Portfolio, government’s register of its costliest and riskiest programmes, included 244 projects with an estimated total whole-life cost of £805 billion. Government undertakes projects, whether infrastructure or service transformation, to deliver a range of government objectives. These objectives include supporting economic growth, meeting climate change obligations or making public services more efficient.

2 Government produces guidance for departments on how to establish, capture and evaluate the value they are trying to achieve.¹ However, our work on *Projects leaving the Government Major Projects Portfolio*² and *Evaluating government spending*³ found that government does not routinely look at what happens after major projects are completed. We spoke to people with project management expertise from within and outside government. They expressed the view that government focuses more on identifying potential benefits to make the case for investment, and on delivering to budget and schedule, than on ensuring that projects achieve the intended purpose and long-term value. Delivering to budget and schedule are important components of whether project delivery is value for money. However, the success of a project and whether it represents value for money will ultimately be determined by whether the value of the project justifies its cost.

3 For this report, we examined how projects achieve value, including after they are completed, to see what lessons there are for other projects. By value, we mean the difference projects make to citizens, service users or the environment. Similar concepts, such as benefits, outcomes or impact, are often used interchangeably when discussing what a project has achieved. We use the term value to reflect that projects may add value for stakeholders and the public beyond the benefits identified in their business cases. Value is generated by how organisations or stakeholders adopt and make use of project outputs in practice. Occasionally we use other terms where appropriate.

1 The Infrastructure and Projects Authority (IPA), *Guide for Effective Benefits Management in Major Projects*, October 2017. HM Treasury guidance includes the Green Book on options appraisal and business case development, the Magenta Book on evaluation, and the Aqua Book on quality analysis. IPA is currently refreshing its benefits guidance and is planning to publish in 2024 the Teal Book on project delivery guidance, which will cover value/benefits.

2 Comptroller and Auditor General, *Projects leaving the Government Major Projects Portfolio*, Session 2017–2019, HC 1620, National Audit Office, October 2018.

3 Comptroller and Auditor General, *Evaluating government spending*, Session 2021–22, HC 860, National Audit Office, December 2021.

About this report

4 We returned to six projects that received public funding;⁴ are complete or have been operational for some time; and on which we have reported during earlier phases of their lifecycle (see Appendix One). Government bodies delivered five of the projects. The other is a project by the BBC, which receives public funding but is not a government body and is operationally independent. We interviewed a selection of people who were involved in the projects or are operating the completed projects, and other stakeholders. We used open questions to explore their reflections on the value the projects achieved and how that happened. We focused on the positive factors, and what seemed to work, predominantly post-delivery. We also reviewed published evaluations where available.

5 The case example projects that we looked at were as follows:

- **The Millennium Dome/The O2** (completed 1999) involved constructing a venue on the Greenwich Peninsula to host the Millennium Experience, an exhibition that was open for the whole of 2000. In 2002, the government agreed a deal to sell the Dome to the Anschutz Entertainment Group (AEG), which now operates the Dome as The O2 Arena (The O2), an entertainment and sporting venue with retail and hospitality venues on the site.
- **Diamond Light Source** (opened 2007) is the UK's national synchrotron science facility located at the Harwell Science and Innovation Campus in Oxfordshire. Funded by UK Research and Innovation (UKRI) – an arm's length body of the Department for Science, Innovation & Technology – and the Wellcome Trust, it provides national science infrastructure, and works like a giant microscope. It is available to researchers, with various academic and industrial uses.
- **High Speed 1** (completed 2007), also called the Channel Tunnel Rail Link, provides high speed rail access from London to Kent and continental Europe. It is managed by HS1 Ltd.
- **The BBC's move to Salford** (completed 2012) involved the move of several of the BBC's operational and production facilities from London to a new site in Salford, Greater Manchester.
- **The London 2012 Olympic and Paralympic Games** (completed 2012) involved developing the Olympic Park (now the Queen Elizabeth Olympic Park), venues and infrastructure required for the Games and their legacy.
- **The Hartree Centre** (opened 2013), funded by UKRI and located at the Sci-Tech Daresbury Campus in Cheshire, is dedicated to industrial application and research, helping UK businesses and organisations with adopting supercomputing, data science and artificial intelligence technology solutions.

⁴ The projects in this report will have begun, and in some cases completed, under different assurance regimes and with different guidance on value and benefits in place. For example, the Major Projects Authority assured government major projects from 2011 and Infrastructure UK provided commercial support from 2010, until they merged in 2016 to become the Infrastructure and Projects Authority.

6 We have not sought to carry out our own evaluations or make judgements about whether the projects have delivered the value that was expected or promised, or were value for money. Given each project was a large and complex undertaking, our observations are not exhaustive, and do not cover all aspects of project delivery and operation.

7 We drew out six main observations (paragraphs 10 to 33) from our examination of the case examples.

- In order to demonstrate value, projects need to be properly evaluated.
- Major projects can act as a catalyst for growth.
- A clear vision, objectives and leadership culture focused on the intended value of the project are key.
- Many organisations and stakeholders need to work in partnership, creating a shared vision, through delivery and beyond.
- It can take time and additional investment to realise value from major projects.
- The potential value from a project can go beyond the value that was originally intended or expected.

8 We combined our case examples with analysis of previous National Audit Office (NAO) work on major projects to develop seven practical lessons which government might consider as it looks to generate greater value from its major projects (Figure 1). We group the lessons around three themes.

- Start with the difference you want to make and the value you want to produce, rather than the project you want to do.
- Fully consider the wants, needs and concerns of stakeholders (those who will use, operate or benefit from the project) from design through to business as usual, and balance this against your strategic objectives.
- Once the asset or transformed service is complete, regularly review the contribution it makes to your strategic objectives and be willing to adapt if it would deliver more value.

9 We tested the lessons with panels of government officials and project delivery professionals. More information on our approach is in Appendix Two.

Observations from our case examples

In order to demonstrate value, projects need to be properly evaluated

10 The value intended and delivered by the projects we looked at ranged from the core, direct benefits of the projects, such as journey-time savings in the case of High Speed 1 and the construction of facilities to host major events in the case of the London 2012 Olympic and Paralympic Games (the 2012 Games) and the Millennium Dome, to wider value produced by a number of projects we looked at in the form of regeneration and growth or the development of skills in specific sectors. All six case examples can point to evidence of facilitating wider value. We also saw projects create value by showing what is possible. For example, the 2012 Games showed how it designed and procured sustainably, and the BBC demonstrated the value of moving operations from London to Salford.

11 We have previously reported the importance of monitoring and evaluating value. It allows policy-makers to learn and helps them decide whether interventions should be continued, expanded, improved or stopped altogether.⁵ While all six case examples can point to some form of post-project assessment as to what they have achieved, not all were evaluations of the original project. There were different drivers for undertaking these assessments. Some projects had an initial assessment soon after project completion, such as High Speed 1 and the 2012 Games.

12 Others commissioned research to demonstrate impact after a longer period of operation, which has helped to develop assets further. Some of the stakeholders we spoke with also emphasised how demonstrating success gives stakeholders and sponsors the confidence to invest further. For example, AEG commissioned research in 2017 of The O2's impact as part of its successful proposals to develop a retail offer.

5 See footnote 3.

Major projects can act as a catalyst for growth

13 Several of the projects we looked at have stimulated economic growth and regeneration. High Speed 1, for example, did so in places around the High Speed 1 stations at St Pancras, Ebbsfleet and Ashford, and contributed to an increase in tourism in Kent. The 2012 Games and the Millennium Dome/The O2, meanwhile, were catalysts for development in parts of east and south London. The BBC's move to Salford has stimulated the growth of the technology and media industry in Salford. It also provided a template for the BBC Across the UK programme to move more operations outside of London to the devolved nations and English regions. The success of the Hartree Centre has been used to try to attract digital and health technology businesses and create high-value jobs in the Liverpool City Region.

14 While those we interviewed said that events or venues built for a specific, time-limited purpose like the Millennium Dome or the 2012 Games have acted as catalysts for generating value, we cannot say to what extent this would have happened without the events themselves, or whether the events accelerated growth and regeneration. However, in our case examples, realising value has required more than completing the project and expecting value to emerge. It has required time, additional investment beyond that allocated to the original project, and ongoing collaboration between public and private sectors, and local authorities.

15 The importance of taking steps to maximise the use of an asset, and therefore the potential value from the investment also came through from some case examples. For example, Diamond Light Source is an important piece of UK national infrastructure. The science community uses the facility to, for example, examine the structure of materials, which leads to the design of new drugs and engineering components that have been applied in a range of industries. Diamond Light Source contributed to the understanding of the virus that causes COVID-19, and which drugs could be used to treat it effectively. This also demonstrates how the value from a project can be wider than originally anticipated. Being able to demonstrate success through monitoring and evaluating has led to the funders of Diamond Light Source to approve a successor project.

A clear vision, objectives and leadership culture focused on the intended value of the project are key

16 A common theme across our case examples was the importance of clarity of vision and objectives, with leaders focused on promoting the value that the project will bring. Any organisation must have effective leadership if it is to deliver its objectives. Leaders must set a clear direction and harness the talents of employees, delivery partners and wider stakeholders towards achieving that vision. The BBC told us in relation to its move to Salford, how valuable it was for leaders to champion the project and be a strong and visible advocate of its ambition and strategy.

17 We found a strong link between objectives, impact, value to users and leadership in our case examples on UKRI-funded projects: the Hartree Centre and the Diamond Light Source. For example, UKRI measures the commercial benefits or improvements to clients of the Hartree Centre or Diamond Light Source's contributions to scientific research. By focusing on impact and collaborating with users of the facilities UKRI has been able to establish which projects will be useful to industry and the research community. By monitoring and evaluating its projects UKRI has been able to make improvements to its processes and services to better serve its users and demonstrate impact to the wider economy and society.

18 Central to the vision of the 2012 Games was the legacy it would leave on society in terms of economic, sporting, and environmental benefits. The bid received substantial political and financial support from the government and the Greater London Authority. The bid included how the Olympic Park would contribute to regenerating east London, including building venues for sport, business and, in the case of the Olympic village, housing after the Games. The plan and focus on legacy and lasting value of the site was evident in the extent to which it was built into, for example, the design of the venues and the broader Olympic Park (now the Queen Elizabeth Olympic Park) and transport links in east London. All venues and facilities on the park are now being used for their intended purpose. The velodrome, for example, has been developed into a centre for elite and community road and track cycling, BMX and mountain biking. A range of businesses and university campuses now use the Games' media centre, now known as Here East.

19 Government's decision to remediate contaminated brownfield land to host the Millennium Dome led to the regeneration of the Greenwich Peninsula. Interviewees told us that strong political leadership was critical to the success of the regeneration of the area. The Millennium Dome project was as much about providing a catalyst to turn a large wasteland area into useful land for housing and business as it was hosting the Millennium Experience itself. However, government did not have a clear vision for what the Dome would become in the long term. Its initial attempts to find a legacy use failed. However, government successfully sold the Dome to AEG for use as a music and entertainment venue when it broadened the range of potential commercial uses. The subsequent success of the venue – it is now the most attended entertainment venue in the world – has been an important part of regenerating the area.

Many organisations and stakeholders need to work in partnership, creating a shared vision, through delivery and beyond

20 Often, responsibility for delivering value from a project sits within a project delivery team or organisation. A project delivery team may achieve benefits during the delivery of a project or when the project completes. However, it is rarely the case that a project delivery team alone can deliver the full value of a project. Our case examples show that delivering value often requires a range of organisations and stakeholders to work together and have a clear understanding about their roles.

21 In the case of the Millennium Dome, the developer's masterplan for the Greenwich Peninsula has been central to establishing a long-term vision for the area. It has support from stakeholders, including the Royal Borough of Greenwich, the Greater London Authority, and the operators of The O2, for how the area would be developed and regenerated. A range of stakeholders told us that this broad agreement on the vision has been an important foundation for the regeneration of the area.

22 The Hartree Centre is a facility used by both industry and academia, so it lends itself to collaboration. The Hartree Centre and UKRI are focused on impact and benefits; there are processes for UKRI to routinely track and report users' views and satisfaction from project start to delivery. Interviewees also told us that forums held across the Sci-Tech Daresbury Campus and involving industry, academia and the local authority have helped to ensure the Hartree Centre retains a clear focus on achieving value.

23 It is important that government has a clear vision for the value it wishes to deliver and that benefits are kept in focus during delivery and beyond. Our case examples indicate that in some cases it may be more effective for an organisation outside of the project delivery team to take responsibility and accountability for ensuring that the project delivers value. One model is where development corporations are responsible for capitalising on the construction of a major infrastructure asset. For example, the government and the Greater London Authority established the Olympic Park Legacy Company (later the London Legacy Development Corporation) in 2009. It had a budget and planning powers to develop the Olympic Park after the 2012 Games. In 2015, government established the Ebbsfleet Development Corporation. On High Speed 1, while Ebbsfleet International Station has been open since 2007, regeneration around the station had been slow. The Ebbsfleet Development Corporation was set up to speed up delivery of 15,000 homes and to create a garden city. It has developed a masterplan for the area around the High Speed 1 station and is waiting for planning permissions for housing.

24 It is important that the delivery organisation, or project funder, has a clear understanding of which organisations could deliver value from the project, and their respective roles and responsibilities. This may involve developing plans for identifying appropriate organisations, and getting their buy-in and ownership. From our case examples we have seen different organisational arrangements to drive value from assets. UKRI set up a joint venture with industry and Halton Borough Council for the Sci-Tech Daresbury Campus that hosts the Hartree Centre. Since 2010, the number of people employed by campus companies has grown from over 300 to 1,300, which has led to plans for further regeneration, including building new homes. The Greenwich Peninsula masterplan and forum has brought various public and private organisations together because of mutual interests to develop plans for how to renovate the area further, including building a creative industries hub, housing, public parks and schools.

It can take time and additional investment to realise value from major projects

25 Government major projects are complex and challenging. It can take many years to deliver a project, and longer still to achieve the full value, which typically occurs when a completed asset is used. The Millennium Dome is an example of early benefits being well below forecasts, before improving. During its year of operation, the Dome needed to attract over 12 million paying visitors to meet revenue projections, starting with over 700,000 visitors in January 2000. It only achieved less than half the visitor numbers over the year and in January. While monthly numbers did increase following visitor initiatives, it only attracted over 700,000 monthly visitors towards the end of the year.

26 Case example interviewees highlighted the need for time and investment to achieve wider benefits, such as building new housing or creating employment opportunities. In these cases, organisations that can deliver wider value may sit outside the policy area of a project's sponsor department. The ability of these organisations to deliver value will depend on their capacity, capability and incentives to take advantage of the opportunities presented by the project.

27 For example, we were told that High Speed 1 presented an opportunity for investment in towns like Folkstone and Ashford. The investment has made these places more attractive to businesses and to those who could use the reduced journey times to commute in and out of London. We were also told that in recent years changes in land value had made it attractive for developers to build housing and infrastructure at scale in Ebbsfleet, as originally expected. However, for commercial reasons, the operator of international services has not run services that stop at Ebbsfleet or Ashford International stations since the start of the COVID-19 pandemic in March 2020, and international services have never stopped at Stratford International. Some interviewees told us that local areas around stations could benefit from international services stopping at stations between St Pancras and the continent. This shows that there can be trade-offs between commercial interests and the potential local growth and regeneration benefits. There are also plans in place for further investment and development in, for example, Media City in Salford and on the Greenwich Peninsula. While we cannot attribute all the credit for these investments to the BBC's move to Salford and the Millennium Dome/The O2, it is likely that both projects made pivotal contributions.

28 Unlocking the potential full value or achieving wider benefits may require investment and action beyond the point at which the core project is completed, particularly where regeneration is concerned. For example, UKRI's Hartree Centre is in the Sci-Tech Daresbury Campus, which the government designated as an enterprise zone in 2011. Being an enterprise zone meant Halton Borough Council received grant funding to invest in things such as power upgrades, site connectivity and environmental and improvement works. These works benefited existing companies and also made the campus more attractive to technology companies.

29 Our report on *Grassroots participation in sport and physical activity* found mixed progress towards achieving the objective of increasing sports participation from the 2012 Games. The proportion of adults participating in sport declined in the three years following the Games and we found that government commitment to the sporting legacy had waned by 2016. We recommended that expectations for sporting legacy for future events should be matched by proper arrangements for funding, monitoring and evaluating progress after the event.⁶

30 Sustained effort in delivering value may include how to attract and retain people with the necessary skills. For example, we were told that sustaining the value that the Diamond Light Source facility provides for science and industry will depend on ensuring that scarce, skilled operators remain incentivised to work at the facility in a competitive skills market.

6 Comptroller and Auditor General, *Grassroots participation in sport and physical activity*, Session 2022-23, HC 72, National Audit Office, July 2022.

The potential value from a project can go beyond the value that was originally intended or expected

31 Major projects provide opportunities for additional benefits and value after they have moved out of their project phase and into business-as-usual. Projects are set up to deliver something – a new asset or transformed services – and therefore end when the project is complete. However, the potential value that can be realised from a project continues beyond the delivery phase.

32 The BBC told us that its decision to move its network sports operation from London to Salford in 2011 enabled it to provide more extensive coverage of the 2012 Games than would otherwise have been possible. The investment in technology in Salford enabled audiences to choose between multiple, concurrent live streams of different events or sports at any one time. The BBC also told us this investment has since led to an increase in the breadth of sports it streams online alongside other events such as music festivals. Regarding the Millennium Dome, interviewees told us that the legacy use of the facility was not fully thought through at the time. Our 2005 report on the sale of the Dome found that a complex set of competing objectives, including that its use should have ‘cultural significance’, contributed to the failure of the first attempt to sell the Dome. Having a simpler and more flexible approach to both future uses of the Dome and the land available led to the successful sale to AEG.

33 Projects with a more focused core benefit may be able to identify additional ways to add value. We found that projects that start with a long list of potential benefits may struggle to deliver all of them. Interviewees told us that promising a wide range of benefits can raise expectations, some of which may be challenging to meet, and require time, investment and stakeholder buy-in. We also spoke with Tideway, the organisation responsible for the Thames Tideway Tunnel project. The project’s main aim is to improve the water quality of the River Thames by reducing the amount of waste water that flows into it. As part of its approach, Tideway developed 54 legacy benefits for the project across areas including the environment, the economy, and jobs and skills. It also mapped those legacy benefits to 10 of the UN’s 17 sustainable development goals and reports progress against these benefits to demonstrate how the project produces value beyond the core objective of the project.

Our lessons

34 Our case examples found that it takes time, vision, investment and partnership working to achieve wider value from major projects. We analysed previous NAO reports to synthesise past findings about delivery of benefits. We combined the analysis with our case example observations and considered existing guidance to develop seven lessons for government to help achieve value (**Figure 1** on pages 15 and 16).⁷ We tested these lessons with project delivery professionals and government officials. The seven lessons are themed around the following:

- Start with the difference you want to make and the value you want to produce, rather than the project you want to do.
- Fully consider the wants, needs and concerns of stakeholders (those who will use, operate or benefit from the project) from design through to business as usual, and balance this against your strategic objectives.
- Once the asset or transformed service is complete, regularly review the contribution it makes to your strategic objectives and be willing to adapt if it would deliver more value.

⁷ Existing guidance that we looked at included the Association for Project Management's benefits management lifecycle, *What is benefits management and project success?* | *APM*; the IPA's guidance on Gate review 5 on operations reviews and benefits management; and the IPA's guide for effective benefits management *Guide for Effective Benefits Management in Major Projects* (publishing.service.gov.uk).

Figure 1

Summary of our lessons

We combined observations from our case examples with analysis of previous National Audit Office reports to develop seven lessons that we tested with panels of project delivery professionals and government officials

Start with the difference you want to make and the value you want to produce, rather than the project you want to do

Lesson 1

Start from the strategic objectives you want to achieve and the value you want to add, not the project or solution.

Starting with a clear vision and objectives is fundamental to success. Understanding the existing activities and interventions that support those objectives helps to establish whether a project is the best option and how it can contribute to the delivery of value.

Considering a broad range of options – some but not all of which may be a major project – for achieving those strategic outcomes also supports value for money.

Lesson 2

Establish leadership and an organisational culture focused on the delivery of value, supported by clear accountability and responsibilities.

Embedding a culture focused on the value you want to achieve can produce results by cascading the right behaviours and incentives for staff.

Focusing on value can incentivise project teams to deliver the intended outcomes and consider how further value could be extracted from existing assets and systems.

Have clear ownership and accountability for delivering value and think about who is best placed to deliver value at different stages of the project lifecycle. For example, after delivery, it may be best placed outside the delivery organisation, such as with a development corporation in the case of projects that support regeneration.

Fully consider the wants, needs and concerns of stakeholders (those who will use, operate or benefit from the project) from design through to business as usual, and balance this against your strategic objectives

Lesson 3

Take account of the views and needs of end users, operators, and other stakeholders at an early stage.

Value is largely defined by those who benefit from a project and is ultimately delivered by those who operate and use the asset once it is built or who run the service that is transformed by a project.

Consulting stakeholders early can help to ensure that a focus on value is established early and enable a project to meet the needs of users and stakeholders. Perception of stakeholders is also important in building the support and momentum required to succeed.

Lesson 4

Consider the full range of activities – including and beyond the specified programme – that will be required to enable delivery of value, including funding requirements.

Delivering a project in isolation is rarely all that is needed to release the intended value. There is often additional activity and investment required.

Consider what additional activity could be needed and ensure that the right organisations – whether from the public or private sector – are ready to deliver. Transport projects, and particularly rail projects, are good examples. Additional investment in transport connections or development at stations is sometimes needed to drive value, rather than simply building a railway.

Lesson 5

Prepare for handover early to build understanding and alignment among users/operators about how to maximise value from the project.

Ultimately it is operators and end users who will deliver value as they will adopt and use the asset produced. As well as the importance of bringing in operators early to develop a project, keeping those operators involved throughout to prepare for a smooth transition to business-as-usual, for example, is important.

Figure 1 *continued*

Summary of our lessons

Once the asset or transformed service is complete, regularly review the contribution it makes to your strategic objectives and be willing to adapt if it would deliver more value

Lesson 6

Regularly review outcomes and benefits in the context of a changing environment and adapt the asset once it is built (if cost-effective to do so), to meet changing needs and external circumstances where needed.

Change – whether internally or externally driven – is a recurring feature of government projects, especially major projects that span parliaments. The value of some projects can take many years to be fully realised. Re-engaging with stakeholders and reviewing what value an asset or service is delivering, and what innovative approaches could help deliver more value can enable an organisation to take advantage of new opportunities.

Lesson 7

Monitoring and evaluating the value achieved allows your organisation to make informed decisions to deliver or safeguard value and to inform future projects.

Monitoring and evaluation produce valuable information about what has worked, what has been delivered and what more needs to be done to deliver value. Better and more widespread monitoring and evaluation of projects could enable government to improve its focus on what works and produce more value from its investment in major projects.

Source: National Audit Office analysis of our audit reports, case examples, government guidance and panels with officials from government and the project community

Appendix One

Case example summaries

1 The following figures (Figures 2 to 7) provide summaries of the six case examples we examined to draw out our observations. These are all projects we have reported upon previously either as part of individual audits or thematic reports. The summaries are based on interviews, our previous work and reviews of published documents.

2 Our review of documents focused on project assessments, particularly, evaluations reported by government and/or impact assessments undertaken by an operating body where available. We have not sought to undertake a comprehensive analysis of all published material of these case examples given the volume and time passed since they completed. Similarly, we attempted to speak with a mix – rather than an exhaustive list – of stakeholders to gather views about the projects. There may be perspectives and findings held by others that are not reflected in our summaries below. The summaries should be viewed as providing insights as to some of the value achieved and how. They are not a comprehensive assessment of what these projects have achieved and should not be interpreted as the National Audit Office's (NAO's) judgement on them.

3 The information in the summaries below should not be compared between projects. This is because we are reflecting information at the time of reporting, which differs for each project. Assessments were carried out at different points in the project lifecycle and/or the operational phase, using different methodologies and produced for different purposes. The budget and cost figures are in different price bases. Price base and year of reporting are indicated in the example where known. Similarly, we have used published information to report outturn costs, which reflects final costs if known. Otherwise, it shows the anticipated final cost last reported, along with the relevant source.

Figure 2

The Millennium Dome/The O2

About the programme	The original purpose was to provide the centrepiece for the nation's millennium celebrations by opening on New Year's Eve and to host the Millennium Experience through the year 2000. After an initial unsuccessful competition for finding legacy uses for the Millennium Dome, the government sold the site in 2002 to be developed as an entertainment venue.
Start and end dates	1997 to 1999 – construction of the Millennium Dome. 1999 to 2002 – search for legacy use for the site. 2003 to 2007 – redevelopment into an entertainment venue and renamed 'The O2' in 2005; first concert held in 2007.
Budget	In our 2000 report, we reported that in May 1997 an original budget of £758 million (1997 prices) was approved for the construction and operation of the Millennium Dome.
Outturn	In our 2002 report, we reported as at December 2001 a total forecast estimate of £789 million (2001 prices) for building, operating and closing down the Millennium Dome and its operating company. This estimate excludes the costs borne by English Partnerships for its share of decommissioning and maintaining the Dome. In our 2005 report, we found that English Partnerships incurred total costs of almost £29 million, between 2001 and 2004, for decommissioning, maintaining and selling the Millennium Dome.
Main intended benefits	Create the Millennium Experience, an exhibition of a scale and stature comparable to that of the Great Exhibition of 1851, and the Festival of Britain of 1951.
Wider intended benefits	Regeneration of the Greenwich Peninsula.
Evaluation	The government at that time did not require a formal evaluation of the Millennium Dome. AEG, the owners and operators of The O2, commissioned an economic impact assessment in 2017 as part of its plans to develop retail outlets.
What benefits were delivered	The Millennium Dome was the UK's most visited tourist attraction in 2000 although it achieved half of the forecast 12 million visitors. The O2 has become one of the world's most popular destinations attracting around nine million visitors a year. It has brought employment to the area and helped boost the local economy and facilitate developments of housing and offices on the Greenwich Peninsula.

Figure 2 *continued*
The Millennium Dome/The O2

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| What we found | <ul style="list-style-type: none"> ● Along with building the Millennium Experience, a key driver for the regeneration of the area was the desire to redevelop the large, contaminated wasteland into a useful space for housing and business. ● There was a lack of operational planning and expertise by public bodies for the Millennium Experience – including unrealistic predictions of visitor numbers – which contributed to the failures experienced during the year of operation. ● Although the Dome itself was to remain a part of the legacy strategy of the Millennium Experience, the subsequent repurposing of the asset and benefits realised from The O2 were not part of initial plans. ● Success of The O2 has led to far-reaching benefits and development across the Greenwich Peninsula, and inspired confidence for further investment in east London. ● The O2's owner and operator have applied their learning from the regeneration of Greenwich, particularly as relates to having a clear vision of what they want to achieve from the asset to the development of similar entertainment venues across the globe. |
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National Audit Office reports	<p>Comptroller and Auditor General, <i>The Millennium Dome</i>, Session 1999-2000, HC 936, National Audit Office, November 2000.</p> <p>Comptroller and Auditor General, <i>Winding-up the New Millennium Experience Company Limited</i>, Session 2001-02, HC 749, April 2002</p> <p>Comptroller and Auditor General, <i>Regeneration of the Millennium Dome and Associated Land</i>, Session 2004-05, HC 178, National Audit Office, January 2005.</p> <p>Comptroller and Auditor General, <i>Regeneration of the Greenwich Peninsula: A Progress Report</i>, Session 2007-08, HC 338, National Audit Office, July 2008.</p>
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Source: National Audit Office analysis of published documents and interviews

Figure 3

Diamond Light Source

About the programme	Diamond Light Source is the UK's national synchrotron science facility, located at the Harwell Science and Innovation Campus in Oxfordshire. It works like a giant microscope, harnessing the power of electrons to produce bright light that scientists can use to study a vast range of subject matter, from new medicines and treatments for disease to innovative engineering and cutting-edge technology. It is a joint venture funded by UK Research and Innovation (UKRI) through the Science and Technology Facilities Council and by the Wellcome Trust, who own 86% and 14% respectively.
Start and end dates	Its funders established it as a not-for-profit limited company in 2002 with construction of the facility beginning in 2003 and services becoming operational from 2007. Facilities from the site have evolved with construction over three phases, with the third phase completed in 2021.
Budget	In our 2016 report we reported that the initial capital budgets at approval for the three phases of construction totalled £450.9 million.
Outturn	Diamond Light Source reported that the total cost for completing the three phases of construction was £494.2 million. This comprised contributions from both shareholders.
Main intended benefits	To provide world-class facilities for scientists from universities and industry, both in the UK and internationally to advance knowledge in virtually all fields of research.
Wider intended benefits	Support the UK skills agenda in science, technology, engineering, and mathematics (STEM). Plus, increased awareness of the value of STEM subjects to everyday lives.
Evaluation	Published a study in 2021 measuring and demonstrating the scientific, technological, societal and economic benefits of Diamond Light Source to contribute to the evidence base and input to future funding requests.
What benefits were delivered	<p>More than 14,000 scientists have used Diamond Light Source since it began operations. It has enabled scientific achievements in several fields. For example, scientists at Diamond Light Source have worked with car manufacturers to understand how the structure of steel can be manipulated to make faster and more streamlined cars.</p> <p>The 2021 impact study estimated that it had a cumulative monetised impact of at least £1.8 billion from £1.2 billion investment up to 2020. Investment included original capital contributions (set out above) and operational expenditure, of which government's contribution was around £1 billion.</p> <p>Researchers using this facility had published over 9,600 articles in peer reviewed journals as of September 2020, and patents citing Diamond Light Source publications are collectively valued at over £10 billion.</p>

Figure 3 *continued*
Diamond Light Source

What we found	<ul style="list-style-type: none"> ● Diamond Light Source is an important piece of UK national infrastructure for the benefit of the science and academic community, which in turn has benefited industry and society. For example, research conducted at the facility in 2020 contributed to the understanding of the virus that causes COVID-19, and which drugs could be used to treat it effectively. ● It has a clear sense of the value it is seeking to achieve in advancing scientific knowledge, which aligns with incentives of key stakeholders such as researchers. These stakeholders are also involved in considering research proposals that would make best use of the facility. ● There is a strong culture and focus on measuring impact, which is also used as part of its public communications to raise visibility of its work and increase collaboration with academia and industry. ● Sustaining the value of the facility is not just about capital investment but also other components that help to drive value. For example, services available are hindered by the lack of skilled staff who could be attracted to work at other synchrotrons offering higher rates of pay.
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National Audit Office reports	<p>Comptroller and Auditor General, <i>Big science: Public investment in large scientific facilities</i>, Session 2006-07, HC 153, National Audit Office, January 2007.</p> <p>Comptroller and Auditor General, <i>BIS's capital investment in science projects</i>, Session 2015-16, HC 885, National Audit Office, March 2016.</p>
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Source: National Audit Office analysis of published documents and interviews

Figure 4

High Speed 1

About the programme	High Speed 1 (HS1) is a 109 kilometre-long high-speed rail line that runs between St Pancras International station in London and the Channel Tunnel. It was the first new mainline railway to be built in England for over 100 years. HS1 Ltd operates and maintains the line and its four stations under a concession agreement receiving revenue from track access charges paid by train companies using the line. HS1 Ltd also receives income, through its retail facilities and car parking at stations. Unlike Network Rail, HS1 Ltd does not receive any government grant. Government awarded the current concession in 2010 for 30 years with a value of nearly £2,100 million. Network Rail has an agreement with HS1 Ltd to manage route infrastructure and three of the stations.
Start and end dates	Construction of the line began in 1998. It opened to international services in two sections in 2003 and 2007. In 2009, domestic high-speed services started.
Budget	The overall funding available to construct the line and a new depot was £6,552 million.
Outturn	The National Audit Office (NAO's) 2012 report reported a total outturn cost of building the line of £6,163 million. This excluded the costs of remodelling the London Underground station at King's Cross St Pancras to cater for additional passengers travelling to St Pancras from HS1. The Department for Transport's 2015 evaluation of HS1 reported a total cost of £6,838 million for building the line including HS1's contribution to remodelling work at King's Cross St Pancras.
Main intended benefits	The intention was to deliver benefits to transport users from faster journey times and increased rail capacity, regeneration benefits and environmental benefits, such as transferring freight from road to rail.
Wider intended benefits	The government said that the project was one of national prestige as it would provide a high-speed rail service to Europe, and was one of a number of high priority projects to develop high-speed rail routes across Europe.
Evaluation	In 2010, the Department for Transport reviewed the lessons from the delivery of the project. In 2015, the Department for Transport published an interim evaluation of its impacts in response to a recommendation from the Committee of Public Accounts in its 2012 report, <i>The completion and sale of High Speed 1</i> . In 2020, HS1 Ltd published an economic impact assessment. The Department for Transport has commissioned a second evaluation to examine the longer-term impacts of HS1.
What benefits were delivered	<p>The 2015 evaluation reported that HS1 had a very significant impact on travel time for rail journeys – for Eurostar users, the total saving was 33 minutes relative to the pre-HS1 route, for domestic services, the routes from Ashford and Ramsgate to London via HS1 were 47 and 49 minutes faster respectively than the mainline equivalent. It also reported positive impacts on capacity and reliability of the rail network, increasing demand for services and signs of regeneration along the route.</p> <p>HS1 Ltd's 2020 economic impact assessment reported that HS1 supports £427 million of economic benefits each year and cumulatively £4.5 billion since opening. These benefits included shorter journey times, improved journey experience for 11 million international passengers and 15 million domestic passengers, with 4 million of these switching from using cars and planes, resulting in reduced greenhouse gas emissions. HS1 allowed 400,000 more workers in Kent to live within a one-hour rail journey of central London.</p>

Figure 4 *continued*

High Speed 1

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| What we found | <ul style="list-style-type: none"> ● HS1 has stimulated growth in places around the HS1 stations at St Pancras, Ebbsfleet and Ashford, and contributed to an increase in tourism in Kent. ● Ebbsfleet International Station opened in 2007. However, the government only set up the Ebbsfleet Development Corporation (EDC) eight years later, in 2015. ● The EDC was set up to speed up the delivery of 15,000 homes, to create a garden city and promote regeneration. It has developed a masterplan for the area around the HS1 station and applied for planning permissions for housing. ● The overall value for money for the taxpayer from HS1 continues to be impacted by post-pandemic services running at lower levels than guaranteed through the concession. ● Due to the nature of the concession agreement, government has faced challenges to maximise the long-term value of the HS1 asset, beyond the current concession. However, further investment to capitalise on regeneration benefits and re-establish service levels to those set in the concession agreement could improve the long-term value from the asset. |
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National Audit Office reports	<p>Comptroller and Auditor General, <i>The Channel Tunnel Rail Link</i>, Session 2000-01, HC 302, National Audit Office, March 2001.</p> <p>Comptroller and Auditor General, <i>Progress on the Channel Tunnel Rail Link</i>, Session 2005-06, HC 77, National Audit Office, July 2005.</p> <p>Comptroller and Auditor General, <i>The completion and sale of High Speed 1</i>, Session 2010-2012, HC 1834, National Audit Office, March 2012.</p>
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Note

- 1 Committee of Public Accounts, *The completion and sale of High Speed 1*, Fourth Report of Session 2012-13, HC 464, July 2012.

Source: National Audit Office analysis of published documents and interviews

Figure 5
The BBC's move to Salford

About the programme	The BBC developed plans to relocate several of its departments to a new regional centre in the north of England to achieve a more balanced national spending profile and better reflect audience needs outside of London.
Start and end dates	In 2006, the BBC decided that it would establish a new regional centre in Salford. In April 2012, the BBC completed the move to the new site.
Budget	In May 2007, the BBC Trust approved an initial budget of £201 million (in 2007 prices) for completing the move phase. In February 2011, the BBC Trust approved a revised budget of £233 million (in 2011 prices), mainly owing to the BBC's decision to bring the fit-out of presentation and broadcast equipment in-house and retain ownership.
Outturn	At the time of our 2013 report the BBC estimated that the final cost to complete the move would be £224 million.
Main intended benefits	To achieve a more balanced national spending profile and better reflect audience needs outside of London, the BBC set targets in 2004 for the period up to 2016 to: <ul style="list-style-type: none"> ● increase the proportion of public service staff based outside London from 42% to 50%; ● increase annual spend on programmes outside London by 35% to £1 billion; and ● move 20% of decisions (measured by spend) to commission new programmes outside of London.
Wider intended benefits	<ul style="list-style-type: none"> ● helping to better serve audiences in the north of England; ● increasing the quality of its content and using new technology and ways of working; and ● providing economic and other benefits to the region.
Evaluation	In 2021, the BBC published an independent assessment of its gross economic impact in the UK. The assessment also considered the BBC's role in growing the creative sector – including the BBC's move to Salford and the development of a digital cluster in the area.
What benefits was delivered	With respect to Salford, the 2021 independent assessment found the following: <ul style="list-style-type: none"> ● The BBC has contributed to the development of a creative and digital cluster around MediaCityUK in Salford – employment in the creative and digital sector in the area has seen growth of 142% since 2010, and the number of digital or creative businesses has grown by 70%. ● The BBC's largest presence outside of London is in the north west of England with around 3,200 full-time equivalent (FTE) employees in 2019-20, largely concentrated at the BBC's base at MediaCityUK in Salford. ● The latest BBC data for 2019-20 shows that the BBC now supports 3,048 direct FTE jobs in Salford and 159 indirect FTE staff in Salford through supply chain expenditure. ● The report suggests a direct link between the BBC's move to Salford and the relocation of other creative and digital businesses, including SIS, ITV, Ericsson. Additionally, the University of Salford opened a campus for the University's School of Arts, Media and Creative Technology at MediaCityUK.

Figure 5 *continued*
The BBC's move to Salford

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| What we found | <ul style="list-style-type: none"> ● The BBC's move to Salford was a catalysing event that gave more confidence to the BBC and others to move operations and to develop the area. This, along with investment from Peel L&P, contributed to the regeneration of Salford Quays and the development of a creative and digital cluster around MediaCityUK. ● Success of the move has been attributed to the strong leadership from the programme team who instilled an open culture to try new things and innovate, as part of the move. This led to the realisation of various additional benefits for the BBC, such as the potential to simultaneously broadcast multiple sports or events at the London 2012 Games over the internet. The BBC also told us this investment has since led to an increase in the breadth of sports it streams online alongside other events such as music festivals. ● The lessons which the BBC learnt from the move to Salford, as they relate to staff and role moves, have been applied to other BBC projects, including the Across the UK programme. |
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National Audit Office reports	<p>Comptroller and Auditor General, <i>The BBC's management of three major estate projects</i>, National Audit Office, February 2010.</p> <p>Comptroller and Auditor General, <i>The BBC's move to Salford</i>, National Audit Office, May 2013.</p> <p>Comptroller and Auditor General, <i>The BBC's implementation of 'Across the UK'</i>, Session 2023-24, HC 190, National Audit Office, November 2023.</p>
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Source: National Audit Office analysis of published documents and interviews

Figure 6

The London 2012 Olympic and Paralympic Games

About the programme	The vision was to regenerate a deprived area of London by building the infrastructure to stage the 2012 Olympic and Paralympic Games and deliver other legacy benefits such as increasing sports participation.
Start and end dates	2005 to 2012.
Budget	In March 2007, government announced to Parliament a budget of £9,325 million for the Games and associated infrastructure. In the National Audit Office's (NAO's) 2012 report we reported this had reduced to £9,298 million.
Outturn	The NAO's 2012 report found that the latest estimate of the final cost was £8,921 million.
Main intended benefits	Construction of venues and infrastructure required to host the Games.
Wider intended benefits	Legacy promises in four pillars: sport, economic growth, regenerating east London and people (including volunteering).
Evaluation	In 2013, the Department for Culture, Media & Sport published its meta-evaluation of the impacts and legacy of the 2012 Games, which comprised of research published between 2011 and 2013. Between 2013 and 2016, the UK Government and the Mayor of London published an annual update on the progress towards legacy goals <i>Inspired by 2012: The legacy from the London 2012 Olympic and Paralympic Games</i> .
What benefits were delivered	<p>In 2012, the NAO concluded the Games were a success with over 11 million tickets sold and construction completed on time and within budget. At that point, most of the Olympic venues and facilities on the Olympic Park had an agreed long-term use and legacy operator.</p> <p>Government's 2013 evaluation reported that the Games provided: a substantial boost to the UK economy; a catalyst for improved elite sporting performance in the UK; and supported the growth of the UK tourism industry. It also concluded that the Games set new standards for sustainability and improved attitudes to disability. They also accelerated the physical transformation of east London.</p> <p>Legacy achievements reported by government in 2016 included that nearly 10 million people had visited Queen Elizabeth Olympic Park since it fully re-opened in April 2014; East Village, the former Athletes' Village, was home to more than 6,000 people, with further new communities being established in and around the Park; there were nearly 3.5 million additional tourist visits to the UK as a result of Games-related promotion activity since 2011-12, resulting in £2,100 million in additional spending; and sustainability standards created by London 2012 were in use at other major sporting events.</p>

Figure 6 *continued*

The London 2012 Olympic and Paralympic Games

What we found	<ul style="list-style-type: none"> ● The 2012 Games were a catalyst for development in east London. ● The importance of legacy and lasting value was evident in the extent to which it was built into, for example, the design of the venues and the broader Olympic Park (now the Queen Elizabeth Olympic Park) and transport links in east London. All venues and facilities on the park are now being used for their intended purpose. ● The legacy ambitions, and therefore the value that was hoped would be delivered from the Games also included elements such as increased sports participation and standards of sustainability in the construction of the venues and operation of the Games. Our report on <i>Grassroots participation in sport and physical activity</i> found mixed progress towards achieving the objective of increasing sports participation from the London Games. The report recommended that expectations for sporting legacy for future events should be matched by proper arrangements for funding, monitoring and evaluating progress after the event.
National Audit Office reports	<p>Comptroller and Auditor General, <i>Preparations for the London 2012 Olympic and Paralympic Games – Risk assessment and management</i>, Session 2006-07, HC 252, National Audit Office, February 2007.</p> <p>Comptroller and Auditor General, <i>The budget for the London 2012 Olympic and Paralympic Games</i>, Session 2006-07, HC 612, National Audit Office, July 2007.</p> <p>Comptroller and Auditor General, <i>Preparing for Sporting Success at the London 2012 Olympic and Paralympic Games and Beyond</i>, Session 2007-08, HC 434, National Audit Office, March 2008.</p> <p>Comptroller and Auditor General, <i>Preparations for the London 2012 Olympic and Paralympic Games: Progress report June 2008</i>, Session 2007-08, HC 490, National Audit Office, June 2008.</p> <p>Comptroller and Auditor General, <i>Preparations for the London 2012 Olympic and Paralympic Games: Progress report February 2010</i>, Session 2009-10, HC 298, National Audit Office, February 2010.</p> <p>Comptroller and Auditor General, <i>Preparations for the London 2012 Olympic and Paralympic Games: Progress report February 2011</i>, Session 2010-11, HC 756, National Audit Office, February 2011.</p> <p>Comptroller and Auditor General, <i>Preparations for the London 2012 Olympic and Paralympic Games: Progress report December 2011</i>, Session 2010-2012, HC 1596, National Audit Office, December 2011.</p> <p>Comptroller and Auditor General, <i>The London 2012 Olympic Games and Paralympic Games: post-Games review</i>, Session 2012-13, HC 794, National Audit Office, December 2012.</p> <p>Comptroller and Auditor General, <i>Grassroots participation in sport and physical activity</i>, Session 2022-23, HC 72, National Audit Office, July 2022.</p>

Source: National Audit Office analysis of published documents and interviews

Figure 7

The Hartree Centre

About the programme	The Hartree Centre helps businesses to explore and adopt supercomputing, data science and artificial intelligence technologies for enhanced productivity, innovation and growth. Its experts collaborate with industry and the research community to explore the latest technologies, upskill teams, and apply practical digital solutions to individual and industry-wide challenges. It is funded by UK Research and Innovation (UKRI) through the Science and Technology Facilities Council.
Start and end dates	The centre opened in 2013 and has evolved as it received different phases of funding for development. For example, in 2015, government awarded five-year funding for phase 3 to expand the Hartree Centre as the UK centre of excellence in cognitive computing and big data. In 2021 government announced a further five-year investment to develop a new artificial intelligence and quantum computing centre.
Budget	In our 2016 report we found that planned capital investment by government at project approval for phases 1 to 3 totalled £172 million. In 2021, government announced a further £172 million investment over five years with industry contributing an additional £38 million.
Outturn	The baseline evaluation of the Hartree Centre published in 2018 reported forecast capital expenditure of £171.6 million for phases 1 to 3. At the time of this report the total capital expenditure spent was £113.1 million with a further £58.5 million expected to be spent over the following three years.
Main intended benefits	The centre's mission is to transform the competitiveness of UK industry by accelerating the adoption of high-performance computing, big data and cognitive technologies.
Wider intended benefits	Support businesses to create high-value jobs and economic growth in the local area.
Evaluation	UKRI has published assessments of the Hartree Centre: in 2018, baseline impact evaluation of its first four years of operation to explore the early benefits to UK industry and the economy; in 2022, the outcomes and benefits that its commercial customers have experienced from working with the centre; and in 2023, the first progress report of the Hartree National Centre for Digital Innovation (HNCDI) programme.
What benefits were delivered	<p>The 2018 evaluation found that in the first four years of operation, the Hartree Centre delivered over 160 research projects with more than 60 collaborators. Approximately 100 of these were with commercial organisations including some of the largest UK companies. It also estimated that the Hartree Centre's direct work with industry during the early phases will generate a total net economic impact of up to £27.5 million in commercial benefits.</p> <p>Its 2022 assessment of users' commercial outcomes found that around one-third of organisations surveyed could already report that their work with the Hartree Centre had translated into increased sales or profitability.</p> <p>Government has awarded additional funding to the Hartree Centre to enhance its offer to industry.</p>

Figure 7 *continued*

The Hartree Centre

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| What we found | <ul style="list-style-type: none"> ● The Hartree Centre's work is focused on industrial application and addressing industry-led challenges. Future funding is dependent on demonstrating the value it adds to stakeholders. This has led to an approach driven by engagement with stakeholders and the embedding of benefits, impacts and outcomes management throughout the business process. ● Strong governance, leadership and accountability structures have ensured the focus on impacts is communicated from the leadership team and relevant processes have been embedded into the entire project management process. ● Impacts and outcomes are monitored by the Hartree Centre through independent experts, as evidenced in the centre's impact reports. These illustrate the work and contributions the centre makes to several high-profile organisations (including Dyson, Rolls Royce and Unilever) through its high-level technical expertise in high-performance computing and analytics. |
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National Audit Office reports	Comptroller and Auditor General, <i>BIS's capital investment in science projects</i> , Session 2015-16, HC 885, National Audit Office, March 2016.
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Source: National Audit Office analysis of published documents and interviews

Appendix Two

Our approach

Our scope

1 Government invests substantial resources – money, time and effort – in major projects. It produces guidance for departments on how to establish, capture and evaluate the value they are trying to achieve. However, we know that government does not routinely look at what happens after major projects are completed.

2 We wanted to examine how projects achieve value, including after they are completed. We adopted an open and appreciative approach in examining our case examples. Our aim was to identify lessons for other major projects based on six case examples of completed or operational projects and an analysis of our back catalogue, tested with panels of experts involved in project delivery.

3 We have not sought to carry out our own evaluations or make judgements about whether the case example projects have delivered the value that was expected or promised, or were value for money. Given each project was a large and complex undertaking, our observations are not exhaustive, and do not cover all aspects of project delivery and operation.

4 This lessons learned report sets out our observations and lessons for those responsible for and/or involved in delivering benefits and outcomes to achieve value across projects and programmes. This report is not designed to provide a comprehensive account of how value can be delivered from major projects but to aid decision-makers and practitioners in thinking how to maximise the potential value.

Our evidence base

5 We conducted our fieldwork between September 2023 and January 2024. We drew on a variety of evidence sources.

Case examples

6 We examined six projects to consider what they achieved and how they delivered and reported value. We chose projects we had reported on previously, and that had been complete or in use for some time. We selected examples that showed a mix of project approaches and characteristics, and where available evidence of benefits had been reported. The case examples were:

- The Millennium Dome/The O2.
- Diamond Light Source.
- High Speed 1.
- The BBC's move to Salford.
- The London 2012 Olympic and Paralympic Games.
- The Hartree Centre.

7 Our approach for the case studies involved:

- Reviews of our previous reports about these projects.
- Interviews with a variety of stakeholders. We used an open, appreciative inquiry style to find out what had happened and how. While it was different for each example, we spoke to people who were involved in delivering projects at the time, those now involved in operating the assets, sponsor bodies, and other stakeholders, for example, local authorities.
- Reviews of publicly available evaluations of these projects along with documents provided by organisations we spoke with.

Document review

8 We used our knowledge management tools and colleagues' expertise to identify around 40 National Audit Office reports on project and programmes where value or benefits management featured prominently, including post-project delivery. Using these reports we developed initial lessons as to common barriers and enablers to achieving value from projects, which we tested with stakeholders through interviews and panel discussions.

9 We also reviewed benefits management guidance produced by central government and the wider project community to help inform our lessons. This included the Infrastructure and Projects Authority's guidance for effective benefits management and assurance of benefits realisation in major projects, as well as HM Treasury's rainbow books, which provide guidance and best practice for delivering projects including appraising and evaluating benefits and value.

Interviews

10 Along with case example interviews we also spoke with officials from government and wider stakeholders involved in project delivery and/or benefits management. We conducted these interviews to inform and test our observations and lessons as well as hear their perspectives around the main barriers and enablers to achieving value from government projects.

11 The government bodies we spoke to included: the Cabinet Office's Evaluation Task Force; the Department for Culture, Media & Sport; the Department for Transport; the Infrastructure and Projects Authority; National Highways; and UK Research and Innovation.

12 The non-government bodies we spoke to included: the Association for Project Management; the Major Projects Association; the University of Manchester and Tideway.

Panel discussions

13 We facilitated panel discussions to challenge and refine our lessons and test whether they were realistic and relevant. We held four panels in November 2023 that involved a total of 16 representatives from the project delivery community with expert knowledge and/or experience of achieving benefits or value from major projects. Our panellists came from academia, government and the private sector. We had representatives from:

- the Association for Project Management;
- the Cabinet Office;
- the Department for Environment, Food & Rural Affairs;
- the Department for Transport;
- the Department of Health & Social Care;
- the Infrastructure and Projects Authority;
- the Major Projects Association;
- the Ministry of Justice;
- National Highways;
- the Public Sector Benefits Management Forum;
- Stantec;
- Turner & Townsend;
- UK Research and Innovation; and
- the University of Manchester.

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