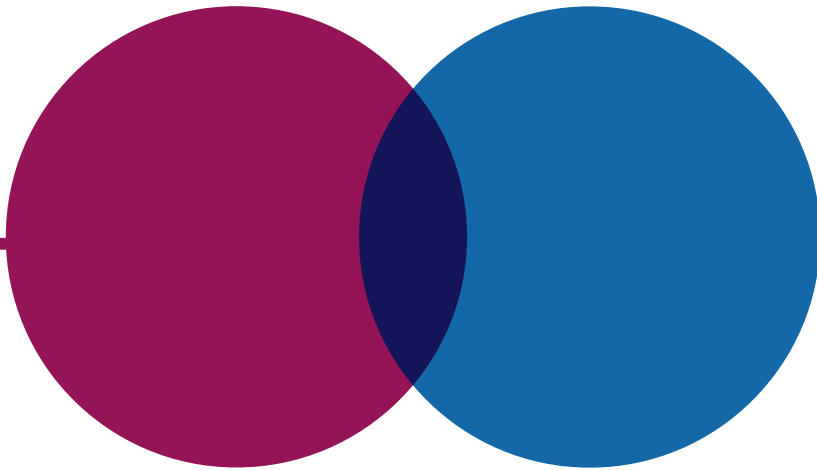




National Audit Office




REPORT

# Road enhancements: progress with the second road investment strategy (2020 to 2025)

Department for Transport and National Highways

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# Road enhancements: progress with the second road investment strategy (2020 to 2025)

Department for Transport and National Highways

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## Report by the Comptroller and Auditor General

Ordered by the House of Commons  
to be printed on 23 November 2022

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National Audit Act 1983 for presentation to the House  
of Commons in accordance with Section 9 of the Act

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**Gareth Davies**  
Comptroller and Auditor General  
National Audit Office

**22 November 2022**

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# Contents

**Key facts** 4

**Summary** 5

**Part One**

Why National Highways and DfT have made changes to the delivery plan 12

**Part Two**

Progress with the revised delivery plan 26

**Part Three**

Preparations for the third road strategy (April 2025 to March 2030) 33

**Appendix One**

Our audit approach 39

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## Key facts

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**£14.1bn**

funding as at March 2020 for work on road enhancements between April 2020 and March 2025

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**£3.4bn**

reduction in funding from the initial £14.1 billion budget for road enhancement projects between April 2020 and March 2025

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**£3.3bn**

increase since 2020 in the total cost to deliver the road enhancement projects planned for delivery between April 2020 and March 2025 (as at September 2022)

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- 33** of the initial 69 road enhancement projects planned for delivery between April 2020 to March 2025 are nationally significant infrastructure projects and require development consent orders
- 7** road enhancement projects received development consent orders between April 2015 and December 2019 (three of which were included in the 33 planned for delivery between April 2020 and March 2025)
- 22** road enhancement projects assessed by National Highways in March 2022 as being at risk of missing a delivery commitment
- £1.19 billion** of contingency allocated to enhancement projects by July 2022. This is more than the initial £1.16 billion contingency budget created in 2020 for road enhancements for the five-year period from April 2020 to March 2025
- £740 million** additional cost pressure for road enhancements to March 2025 from inflation, estimated by National Highways in September 2022
- £6 billion** increase since 2020 in the forecast cost of projects approved in 2020 and planned for delivery between April 2025 and March 2030. In September 2022, National Highways set out a forecast cost of £11.5 billion, up from its initial estimate of £5.5 billion

## Summary

**1** The strategic road network in England comprises more than 4,300 miles of motorways and major A-roads. These roads carry a significant amount of traffic and are an important way for people and goods to move around the country. The Department for Transport (DfT) plans improvements to these roads through periodic road investment strategies and sets the priorities for the strategic road network. Government introduced road strategies to allow longer-term planning and provide greater certainty to National Highways and its supply chain. DfT funds National Highways, which is responsible for the enhancement, renewal, maintenance, and operation of the strategic road network.

**2** In March 2020, the government published its current, second, Road Investment Strategy (the second road strategy), running from April 2020 to March 2025, which outlined its intention to spend £27.4 billion on the strategic road network. Of this, DfT committed £14.1 billion to a complex and challenging portfolio of 69 road enhancement projects, almost double the £7.7 billion budget for the previous five years. Of these, 33 were deemed 'nationally significant infrastructure projects' requiring approval from the Secretary of State through a development consent order. This included nine 'Tier 1' projects that either cost more than £500 million and/or are novel, contentious, involve complex engineering work or detailed consultation with stakeholders. In providing advice to DfT and National Highways in June 2019, Office of Rail and Road (ORR), said there were more large and complex projects in the portfolio than had opened for traffic in the previous five years. The first two years of the second road strategy took place in the context of the COVID-19 pandemic.

**3** From late 2021, significant changes were made to the delivery plan as it became clear that it could not be implemented as planned. DfT reduced the total number of projects that it requires National Highways to deliver by 2025. Separately, as a result of delays to projects, DfT reduced National Highways' budget for road enhancements by £3.4 billion (27%).

## Scope of this report

**4** This report examines how effectively National Highways and DfT are managing risks to value for money across the portfolio of road enhancement projects. We based our assessment on our good practice guides to managing portfolios and programmes (Appendix One). We examine:

- why the portfolio of road enhancements could not be delivered as planned and whether National Highways has managed risk effectively to date;
- whether National Highways is now better placed to deliver the revised delivery plan; and,
- whether National Highways and DfT are taking effective steps to plan for the next road strategy and are implementing learning from previous road enhancements work.

We have not examined National Highways' work on other parts of the second road strategy.

## Key findings

Why National Highways and DfT have made changes to the delivery plan

**5 National Highways took steps to improve its processes and capabilities ahead of the second road strategy.** The first road strategy (covering April 2015 to March 2020) was put together at speed in 17 months by DfT, which created risks to deliverability, affordability, and value for money. National Highways was not able to increase its capacity and capability as fast as expected to deliver the number of planned projects. National Highways and DfT had to make several changes, including reducing the number of road enhancement projects it planned to start work on from 112 to 73. For the second road strategy, it took steps to improve its processes and capabilities. This included introducing a contingency budget for enhancements and developing corporate capacity and capability to match the size of its capital portfolio. Evaluations commissioned by DfT have pointed to improvements in how National Highways operates (paragraphs 1.5 and 1.6).

**6 Independent reviews found that National Highways' plan for the second road strategy was challenging but deliverable.** In summer 2019, ORR and the Infrastructure and Projects Authority (IPA) reviewed National Highways' draft strategic business plan for the second road strategy. These assessments identified that National Highways had improved its cost estimation approach and introduced a contingency budget to help it manage any portfolio-level risks. However, they recognised that the plan represented a set of large and complex projects that would be challenging but deliverable (paragraphs 1.7 to 1.10).



**7 Delays to road projects mean that they will cost more and take longer to deliver than originally planned.** National Highways estimates it will cost £3.3 billion more to complete its road enhancement projects than planned. In total, 39 projects have seen costs increase and National Highways is forecasting delays on 33 projects – it expects these delayed projects to take on average 12 months longer than planned to open for traffic. DfT has identified a key measure of success for the road strategy as delivery of enhancement projects to time and budget. National Highways is assessed each year by ORR against its latest revised delivery schedule, and in 2021-22 reported that it had met the revised in-year delivery commitments. It is right that National Highways works to realistic targets, but implications of the changes made to the delivery plan on outcomes, benefits and for road users are not clear in its public reporting. National Highways and DfT have not assessed the impact of the delays on the intended outcomes and road users (paragraphs 1.13 and 1.14).

**8 National Highways and DfT have reduced the number of road projects in the portfolio from 69 to 58 following the government's change in priorities on smart motorways.** Smart motorways have attracted significant public and political attention and their safety has been questioned. Alongside completing six smart motorway projects already in construction, National Highways is completing a package of measures intended to make smart motorways safer and provide greater public confidence in their use. Following a Transport Select Committee recommendation in November 2021, the government agreed to pause work on 11 smart motorway projects yet to start construction. In agreement with DfT and HM Treasury, National Highways has reallocated the associated funding to retrofit additional emergency areas to existing smart motorways and for other safety measures (paragraphs 1.12 and 1.16 to 1.19).

**9 National Highways and DfT did not anticipate that there would be delays in securing development consent for road projects.** National Highways planned to obtain consent for 33 nationally significant infrastructure projects in the second road strategy. During the first road strategy it received consent for seven projects, none of which were subject to legal challenge. By May 2022 National Highways had experienced delays in receiving or applying for development consent on 12 projects. It needed to do additional work to show how road projects complied with evolving government policy relating to the environment, and some of the projects were challenged by stakeholders in relation to their cumulative carbon impact. National Highways, in its initial planning, did not assess which of the projects in its portfolio were riskier from a development consent perspective. It has taken steps to improve its approach to obtaining development consents but could have done more to anticipate the impact of wider government policy changes on its work (paragraphs 1.20 to 1.25 and 2.4).

**10 National Highways could have done more to plan for and manage the risks arising from a larger and more complex portfolio.** In developing its delivery plan for the second road strategy, National Highways focused its assessment of risk on affordability, and sought to strike the right balance in overprogramming to avoid the issues seen in the first road strategy. National Highways identified portfolio-level risks in its planning – such as changing government priorities, environmental issues and legal challenge. However, it could have done more to demonstrate a consistent approach to monitoring and managing these risks. When portfolio-level risks materialised early in the second road strategy, such as on smart motorways and achieving development consents, it focused attention on managing them. National Highways has been maturing its approach to managing portfolio risks over this period (paragraphs 1.26 to 1.29).

How National Highways and DfT are placed to deliver the revised plan

**11 In March 2022, National Highways identified that around one-third of projects in the portfolio were at risk of delay and has further re-profiled its schedule of work in response.** National Highways monitors whether each of its projects is at risk of missing the target dates for starting construction work or opening for traffic. In March 2022, there were 22 projects at risk of missing a delivery commitment, up from 11 in the previous year. By September 2022, this had reduced to eight projects, because National Highways agreed later delivery commitments with DfT in response to delays on the projects. National Highways has identified securing development consents as the main cause of delivery risk for the remaining eight projects at risk (paragraphs 2.2 and 2.3 and Figure 9).

**12 National Highways believes the risk from delays due to development consent has reduced since it took steps to improve its approach.** In June 2021, DfT and National Highways agreed and began implementing an action plan to support projects through the development consent process. This included identifying riskier projects, more regular engagement with the Planning Inspectorate and developing a response to a legal challenge on cumulative carbon emissions. So far in 2022, eight projects have been approved (by mid-November). National Highways is awaiting the outcome of applications for a further six projects. Of these six projects, three are at high risk of delay from legal challenge. Two of the eight projects were challenged by stakeholders but these challenges were rejected by the High Court, however, they could go to appeal (paragraphs 2.4 to 2.6).

**13 National Highways and DfT are monitoring projects at risk of not providing value for money to inform their decision-making.** National Highways reports to DfT on those projects that are being developed but have a benefit-cost ratio of below 1:1.5, which it defines as low value for money. This has proved a sound basis for focusing closer scrutiny during decision-making. DfT has agreed to cancel one project and has deprioritised two others and removed their funding. One of these deprioritised projects was identified for acceleration by government in its 2022 *Growth Plan* despite remaining on National Highways' watchlist as poor value for money. It is not clear how it will now be funded. As at September 2022, National Highways is monitoring eight projects due to value for money issues, including the two largest projects by value - the Lower Thames Crossing and A303 Amesbury to Berwick Down (Stonehenge Tunnel) projects (paragraphs 2.8 to 2.10).

**14 National Highways has limited options to address cost pressures as it has already allocated all of its contingency budget.** National Highways created a £1.16 billion contingency budget to address any emerging risks to its road enhancement portfolio between April 2020 and March 2025. This was a positive development as there was no contingency budget in the first road strategy. However, it has not been managed as expected. National Highways committed more than half of the contingency budget (£655 million) on early cost increases between setting draft budget assumptions in 2018 and publishing its delivery plan in 2020. National Highways did not intend to use the contingency budget for this purpose. In addition, an external review identified several weaknesses in National Highways' governance of the contingency budget, leading to it being used to resolve cost increases it was not designed for. By July 2022, National Highways had allocated £1.19 billion of contingency, more than the original budget. The majority of contingency used to date has been due to cost pressures which arose before inflation increased (paragraphs 2.11 to 2.14 and Figure 10).

**15 Inflation is much higher than could have been predicted when National Highways and DfT planned the second road strategy.** In September 2022, National Highways estimated that its capital costs to March 2025 will be around £740 million higher than it budgeted for, including inflation, in 2020. National Highways has identified that the impact of inflation will be greatest after 2023 as construction work peaks and delivery contracts end with costs to be renegotiated. National Highways and DfT are assessing how to respond to these cost pressures, which are likely to extend into the next road strategy after 2025. The extent of inflationary cost pressure is beyond the level that can be absorbed by National Highways, and it may have to delay work, descope projects or cancel projects to remain within its overall budget. Similarly, DfT is experiencing cost pressures from inflation across its wider capital programme and therefore cannot absorb the current levels of inflation risk in this portfolio and deliver all its work as planned (paragraphs 2.15 to 2.17).

#### Preparations for the third road strategy

**16 National Highways and DfT are already committed to £11.5 billion of road projects in the next (third) road strategy.** In its September 2020 Delivery Plan, National Highways expected it would spend £5.5 billion in the third road strategy on projects it approved in 2020. Since then, this has increased to £11.5 billion, largely because of project delays occurring during the second road strategy period. National Highways and DfT would normally aim for a rate of around 80% high value-for-money projects and DfT has to agree any lower value-for-money projects that are included in the portfolio. However, only 7% of the money spent on projects that are expected to open for traffic in the third road strategy (by value of spend) will now be on high value-for-money projects. National Highways is developing a pipeline of 31 new projects that could be selected for the next road strategy. This could help address the value for money and regional balance of the portfolio, with 80% of committed work by spend in the third road strategy currently in the south-east, south-west and east of England. However, adding new projects may not be feasible or affordable (paragraphs 3.2 to 3.6).

**17 National Highways and DfT need to ensure they address the issues that contributed to problems during the first two road strategies.** DfT created road strategies to provide more stability and certainty, but there have been significant changes in delivery plans in both the first and second road strategies. National Highways is maturing as an organisation, and we have seen examples of how it has learned and improved from its experience to date. It is important that this continues into its preparation for the third road strategy. We would expect National Highways and DfT, for example, to ensure that: the delivery plan is prepared before the road strategy starts; the portfolio of projects is not too big or risky for the agreed budget; and that risk assessment of its portfolio is improved (paragraphs 3.7 to 3.9 and Figure 11).

**18 It will be challenging for National Highways to balance and deliver against the draft objectives that DfT has so far set out for the next road strategy.** DfT has established six draft objectives for the next road strategy, including areas such as economic growth and decarbonisation. These may yet change. In selecting road enhancement projects for investment, ministers will need to make trade-offs between competing objectives, and critically assess whether in the round, the portfolio supports the chosen objectives and other government priorities. Making progress against current environmental objectives such as biodiversity and air quality, has proved difficult for National Highways and challenges lie ahead in achieving net zero carbon emissions by 2050. National Highways is developing the third road strategy against a backdrop of uncertainty in road usage and changing technology, as well as challenges to public finances, including inflation. DfT and National Highways are developing approaches to help them plan around these areas of uncertainty (paragraphs 3.10 and 3.11 and Figure 12).

### **Conclusion on value for money**

**19** National Highways and DfT took steps to assess whether their plans were deliverable but have nevertheless had to make significant changes to what was a challenging portfolio of enhancement projects. By 2025 National Highways will have completed less work on road enhancements and at a higher cost than originally planned. Some change is expected when delivering a portfolio of projects, but there has been more change than anticipated. At the same time, National Highways and DfT could have done more to plan for and manage the potential risks to their portfolio of enhancement work. In recent months, inflationary cost pressures have risen beyond levels that could have been anticipated by National Highways and DfT, who will face difficult decisions about how to prioritise work. National Highways and DfT should seek to improve the planning and management of their portfolio of enhancement projects to ensure they optimise value for the taxpayer, and avoid delays and costs further increasing the pressure on the next road strategy.

## Recommendations

- a **National Highways and DfT, working with HM Treasury, should develop a response to current inflationary pressures** that ensures stability for the portfolio.
- b **DfT should work with other government departments to ensure a streamlined approach to updating and regularly reviewing the framework against which development consent applications are appraised.** This will help maintain alignment with wider government policies and allow applications to be prepared more efficiently.
- c **In their reporting of how National Highways has performed against what it originally planned to deliver in each road strategy, and against revised delivery targets, National Highways and DfT should set out the implications of changes made to the portfolio on expected outcomes and benefits for each road strategy.**
- d In preparing for the third road investment strategy, DfT and National Highways should:
  - **review the projects that are planned for the third road strategy (from April 2025),** to ensure the portfolio collectively remains feasible, meets strategic needs and is value for money;
  - **assess the feasibility and affordability of including new enhancements** in the third road strategy. Doing so will require determination from HM Treasury of the expected funding envelope;
  - **regularly update the estimated cost of the work planned for the third road strategy during development of the delivery plan;**
  - **further improvements to National Highways' approach to monitoring and managing portfolio risks.** This should include: improvements to the iterative monitoring of the risks identified during development of the road strategy to understand how risks change based on up-to-date information; and an integrated assessment of risks where they are considered together; and
  - **improve the robustness of governance arrangements surrounding the contingency budget to ensure it is used in the way intended.**

# Part One

## Why National Highways and DfT have made changes to the delivery plan

**1.1** The strategic road network in England comprises 4,300 miles of motorways and major A roads (**Figure 1**). These roads carry a significant amount of traffic and are an important way for people and goods to move around the country. National Highways is responsible for managing the strategic road network, including operating, maintaining and improving, and building roads where necessary. The Department for Transport (DfT) funds and sponsors National Highways to do this work (**Figure 2** on page 14).

**1.2** One of the ways that National Highways improves the strategic road network is through road enhancement projects. These are designed to reduce journey times, increase the reliability of the road network, or improve connectivity. The construction can vary in scale and complexity, from changes to existing motorway junctions, to new roads requiring tunnelling, bridges, and viaducts.

**1.3** Government plans and funds improvements to the strategic road network through Road Investment Strategies (road strategies). These typically last for five years and set out what DfT expects National Highways to achieve in that period. Government introduced road strategies to allow longer-term planning and provide greater certainty to National Highways and its supply chain. National Highways is currently in the middle of its second road strategy (April 2020 to March 2025).

**1.4** This Part examines:

- National Highways' delivery plan for road enhancements;
- the changes made by National Highways and DfT to the delivery plan by March 2022 and their impact; and
- the reason for changes to the delivery plan and National Highways management of risks.

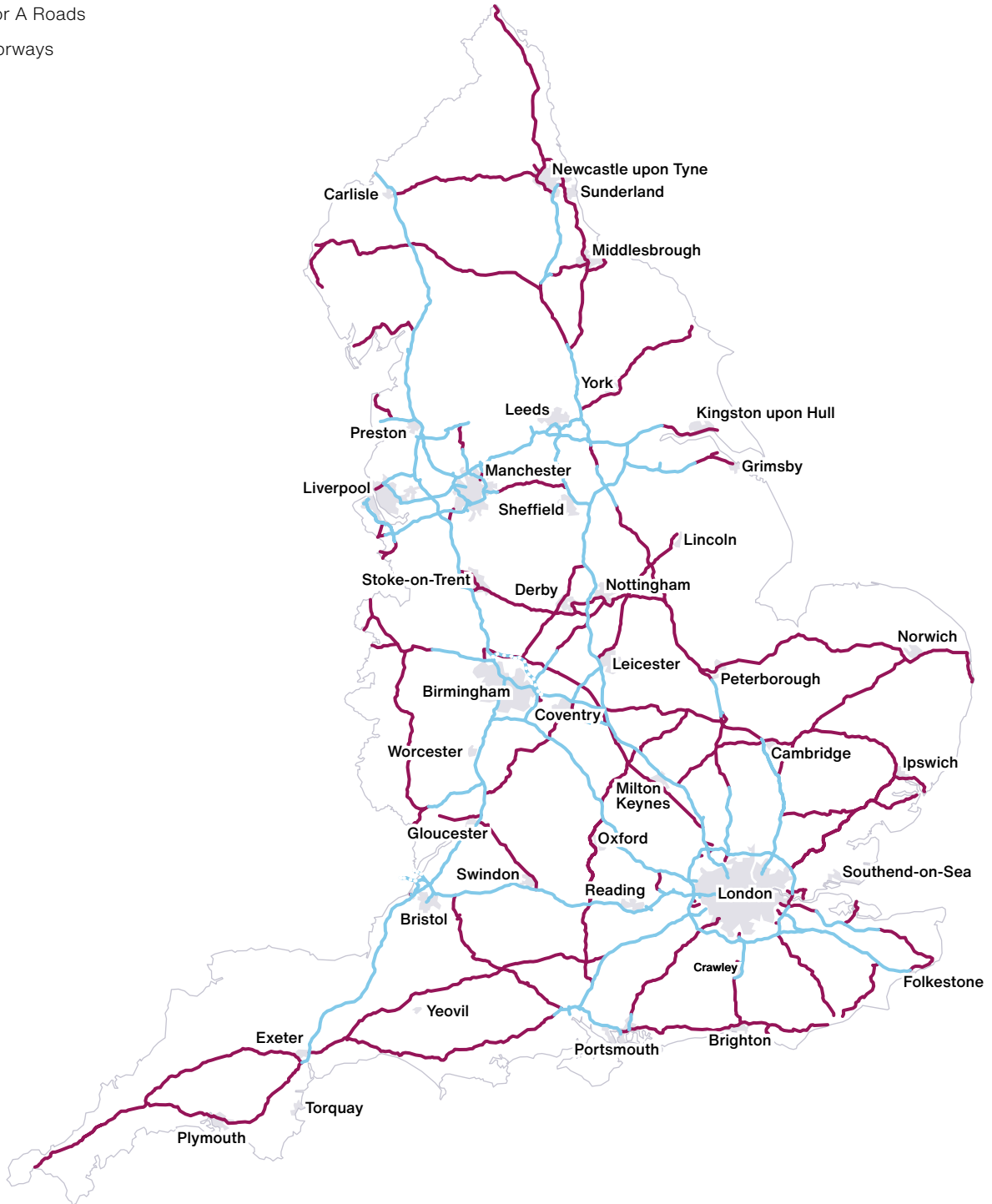
**1.5** In 2017, we reported on the first road strategy. We found that the introduction of the strategy and improved certainty of funding represented an important step towards better long-term planning. However, the speed at which the strategy was put together by DfT in 17 months created risks to deliverability, affordability and value for money. National Highways, along with DfT, subsequently revised its plans and reduced the number of road projects it planned to start work on from 112 to 73.

**Figure 1**

The strategic road network in England

The strategic road network consists of 4,300 miles of motorways and major A roads

- Major A Roads
- Motorways



Source: National Highways, available at: <https://nationalhighways.co.uk/media/2yndi0o3/annex-2-plans-and-schedule-of-roads.pdf>. © Crown copyright and database rights 2021 OS 100030649

**Figure 2**

## Roles and responsibilities for the strategic road network

Several bodies are involved in delivering and overseeing activities on the strategic road network

Organisation	Role
National Highways	Responsible for the enhancement, renewal, maintenance and operation of England's strategic road network.
Department for Transport	Sets the priorities for the strategic road network and approves and funds activity on the network.
Office of Rail and Road	Provides independent assurance to government and advice to the Secretary of State for Transport on the work of National Highways through monitoring how well it is delivering and publicly reporting findings; undertakes an annual assessment of National Highways, and annual benchmarking of performance and efficiency; and provides advice to the Secretary of State on the development of the next road strategy.
Transport Focus	An independent watchdog for transport users. It carries out research into the needs of strategic road network users and represents their interests to government, National Highways and others.

Source: National Audit Office review of publicly available information

**1.6** National Highways took steps to improve its processes and capabilities for the second road strategy period, including introducing a contingency budget for enhancements and developing corporate capacity and capability relative to the size of its capital portfolio. Evaluations commissioned by DfT have pointed to improvements that National Highways has made to its governance and organisational development compared to its predecessor organisation. Office of Rail and Road (ORR) found that by 2019, National Highways had become a more capable organisation.

**1.7** In March 2020, DfT published its second road strategy which runs from April 2020 to March 2025. It set a budget for National Highways of £27.4 billion, with just over half being for the delivery of road enhancements:

- **£14.1 billion** (52%<sup>1</sup>) for road enhancements. This is almost double the £7.7 billion that was made available for enhancements in the previous five years. Of this, £12.6 billion was for specific road enhancement projects, with the remainder for contingency and smaller related projects;
- **£12.8 billion** (47%<sup>1</sup>) for activities including operations, maintenance and renewal of roads, business costs, and designated funds that provide ring-fenced funding for specific activities such as improving safety; and
- **£0.5 billion** (2%<sup>1</sup>) to prepare the third road strategy.

<sup>1</sup> Figures do not sum to 100% due to rounding.



**1.8** In August 2020, National Highways published its delivery plan setting out the activities and projects it will undertake to implement the second road strategy. This included 69 road enhancement projects (**Figure 3**). These vary in scale and complexity, and involve completing projects already started, beginning new projects and continuing the smart motorway programmes.

### Figure 3

National Highways' road enhancement projects, as published in August 2020

**National Highways planned to deliver 69 projects which varied in scale and complexity**

Type of enhancement	Description	Number of projects planned
Junction improvements	Aim to improve the operation and performance of junctions. Work can include upgrading roundabouts, installing flyovers, upgrading slip roads, and installing new lighting and signalling.	27
Smart motorways	Aim to increase lane capacity on the strategic road network. They are designed to use technology to manage the flow of traffic from central control centres and convert the hard shoulder into a lane for traffic.	17
Widening projects	Add new lanes to roads or at junctions that suffer from congestion.	14
Bypasses	Aim to improve the strategic road network by adding new routes for traffic to go around towns and cities.	9
New roads	Additions to the strategic network which aim to improve connectivity or ease congestion on other parts of the network.	2

#### Note

1 In August 2020, National Highways set out these 69 projects, which they expected to be 'in construction' between April 2020 and March 2025. By March 2022, this had reduced to 58 projects, two of which will begin work after March 2025.

Source: National Audit Office analysis of National Highways information

**1.9** During development of the second road strategy, in summer 2019, DfT sought independent advice on its plans from the Infrastructure and Projects Authority (IPA). The IPA provided an Amber Delivery Confidence Assessment of the portfolio, reflecting their assessment that delivery would be feasible but that there were significant challenges for National Highways to manage. ORR has a statutory role in assessing the draft strategic business plan. It found that National Highways had taken steps to improve its processes and capabilities for the second road strategy after facing significant challenge in increasing its delivery capability and capacity in the first road period. For example, National Highways had developed its corporate capacity and capability relative to the size of the portfolio in the second road strategy, improved its approach to cost estimation, and introduced a contingency budget for enhancements. These assessments concluded that the plans for the second road strategy were challenging but deliverable. The IPA provided an Amber Delivery Confidence Assessment of the portfolio, reflecting its assessment that delivery would be feasible but that there were significant challenges for National Highways to manage.<sup>2</sup>

**1.10** When published in August 2020, the estimated lifetime cost for these 69 projects was £21.7 billion (**Figure 4**). Additional funding will be required from April 2025 to complete these enhancements. On average, road enhancement projects take eight years to plan, build and open for traffic. It is common for them to start during one road strategy and finish in a later one.

**1.11** In providing advice to DfT and National Highways on the draft delivery plan in June 2019, ORR pointed to there being more large and complex projects in the portfolio than opened for traffic in the previous five years. The planned enhancements include:

- **nine** 'Tier 1' projects, which either cost more than £500 million and/or are novel, contentious, involve complex engineering work or detailed consultations with stakeholders; and
- **thirty-three** nationally significant infrastructure projects, meaning that they require approval from the Secretary of State before beginning work.

<sup>2</sup> The Infrastructure and Projects Authority's Amber rating is defined as: Successful delivery appears feasible but significant issues already exist requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun.

**Figure 4**

Actual and planned delivery of road enhancement projects by National Highways between April 2015 and March 2025, as at August 2020

The road projects will be delivered and funded through multiple five-year investment periods<sup>2</sup>

Source of project	Number of projects	Road period one spend (£bn)	Road period two spend (£bn)	Future spend (£bn)	Full delivery cost <sup>3</sup> (£bn)
Already started and continuing	26	2.8	2.9	0	5.7
Planned for road period one but delayed	31	0.5 <sup>4</sup>	6.2	1.1	7.8
New project	12	0.4 <sup>5</sup>	3.5	4.3	8.2
<b>Total<sup>2</sup></b>	<b>69<sup>6</sup></b>	<b>3.6</b>	<b>12.6</b>	<b>5.5</b>	<b>21.7</b>

**Notes**

- Figures may not sum due to rounding.
- National Highways funds road enhancement projects in five-year investment periods called 'road periods'. Road period one ran from April 2015 to March 2020; road period two runs from April 2020 to March 2025.
- Full delivery costs are as estimated by National Highways and reported to Office of Rail and Road as at June 2020. Costs have since increased. In September 2022, National Highways estimated the total cost of delivering the 69 projects to be £24.2 billion. This includes £500 million of cost associated with 11 paused smart motorway schemes.
- Some projects that were planned for the first road period were deferred by National Highways to the second road period.
- Some projects that were new for road period two incurred development costs in road period one.
- In August 2020, National Highways set out 69 projects, which it expected to be 'in construction' between April 2020 and March 2025. By March 2022, this had reduced to 58 projects.

Source: National Audit Office analysis of National Highways data

### The changes made by National Highways and DfT to the delivery plan by March 2022 and their impact

**1.12** National Highways was not able to make the progress it expected with its 2020 delivery plan. As a result of delays to work, in 2020-21, National Highways spent £0.6 billion less than planned on road enhancement projects and in 2021-22, it identified £3.8 billion of forecast underspend affecting its enhancement projects. At the Spending Review in October 2021, DfT removed £3.4 billion from the original £12.6 billion budget for the initial 69 road enhancement projects. DfT also paused 11 of the planned 17 smart motorway projects, resulting in the number of road enhancement projects committed for delivery between April 2020 and March 2025 being reduced from 69 to 58 (**Figure 5** overleaf).

**Figure 5**

Revisions to the road enhancement projects planned between April 2020 and March 2025

In 2020-21, National Highways and the Department for Transport reduced the number of road enhancement projects they were committed to deliver

	Original commitment (made August 2020)	Revised commitment (made March 2022)	Net difference
Total projects in portfolio	69	58 <sup>2</sup>	-11
Projects starting work	43	32	-11 <sup>3</sup>
Projects opening for traffic	52	38	-14 <sup>4</sup>
Total budget to deliver road enhancement projects	£12.6 billion	£9.2 billion	-£3.4 billion

**Notes**

- 1 National Highways funds road enhancement projects in five-year investment periods called 'road periods'. Road period two runs from April 2020 to March 2025.
- 2 Two projects out of the 58 committed in March 2022 will not begin work until after March 2025.
- 3 The difference of 11 fewer projects starting work is the net sum of: one project being brought forward from road period three for delivery in road period two; one project being cancelled and removed from road period two due to poor value for money; and 11 smart motorway projects being paused.
- 4 The difference of 14 fewer projects opening for traffic is the net sum of: one project being cancelled and removed from road period two due to poor value for money; two projects having their open for traffic dates deferred beyond 2025; and 11 smart motorway projects being paused.
- 5 There is overlap between some projects which have had both their start of work and open for traffic dates affected. In total, 23 individual projects have been affected by changes to either or both of a start of work and open for traffic date.

Source: National Audit Office analysis of National Highways information

**1.13** The changes made by National Highways and DfT to the delivery plan have changed what will be achieved over this and future road strategies:

- **The cost of delivering the 58 projects that remain in the portfolio has increased.** In September 2022, National Highways estimated that total costs to deliver the full portfolio had increased to £23.7 billion. Costs have increased for 39 projects by £3.6 billion, while 18 projects have reduced by £300 million – leading to an overall increase of approximately £3.3 billion.
- **Some projects will take longer to open for traffic than planned.** National Highways is forecasting that 33 projects will take longer to open to traffic than planned, with an average delay of 12 months.<sup>3</sup> This will leave road users with an underperforming road network for longer.

<sup>3</sup> Forecast delays range from 1 month to 37 months across the 33 projects.

- **The regional distribution of spend on enhancements has changed.** National Highways' initial plan was that 74% of lifetime spend would be on projects in the south, south-west and east of England. Following the changes, this has increased to 78%, further concentrating spend in these regions. Spend per capita decreased on average by £24 per person in the north of England, and £13 per person in the Midlands. In the South and West it has remained the same and in the East it has increased by £393 per person, largely driven by cost increases on the Lower Thames Crossing project.
- **The impact on outcomes and to the users of roads is not clear.** The initial 69 projects were selected against a set of 10 investment criteria. These include benefits to people using the roads, the priorities of sub-national transport bodies, support for growth in industry and housing, and better access to ports and airports. National Highways has not assessed the impact of changes to the portfolio on the delivery of these benefits and the impact on users of the roads.

**1.14** DfT identified in its strategic business case that a key measure of success for the road strategy was the delivery of enhancement projects to time and budget. National Highways' operational performance is monitored by ORR who report annually on the delivery of road enhancement projects. In 2021-22, ORR reported that National Highways had met its annual delivery commitments for projects to start work and open for traffic. This assessment was made against revised delivery targets that were agreed with DfT. National Highways is no longer being held to account against the initial delivery commitments set at the start of the road strategy. It is right that National Highways is assessed against realistic targets, but the implications of the changes made to the delivery plan on outcomes, benefits and for road users is unclear in DfT's public reporting.

### **The reason for changes to the delivery plan and National Highways' management of risks**

**1.15** The following sections examine why National Highways and DfT made changes to the delivery plan:

- Smart motorways – where the pausing of work has led to a reduction in the number of projects.
- Nationally significant infrastructure projects – where delays to development consent have led to cost increases.
- How National Highways assessed and managed risk across its portfolio of road enhancement projects.

## Smart motorways

**1.16** National Highways planned to complete work on 17 smart motorways projects. Smart motorways were introduced to increase the capacity of motorways. They use the hard shoulder as an alternative to building new roads or widening existing roads. These stretches of road use traffic management methods that were not previously present on conventional motorways (**Figure 6**).

**1.17** Smart motorways have attracted significant public and political attention since they were first introduced on the strategic road network in 2014. Concerns about safety have been raised as well as around National Highways’ communication of the changes that were introduced to road users. In March 2020, government published its *Smart motorway safety evidence stocktake and action plan*, which set out a package of measures for National Highways to complete within its delivery plan. The measures are improving safety and aim to provide greater public confidence in their use.

**Figure 6**  
Smart motorway projects

**In January 2022 National Highways paused work on 11 of its 17 smart motorway projects**

<b>Background</b>	The smart motorways programme aims to increase lane capacity on the strategic road network. The 17 smart motorway projects in road period two include plans to convert carriageways to all lane running by removing the hard shoulder and installing new electronic signs to provide information to drivers. Once complete, traffic flow will be managed from control centres.
<b>Status (as at September 2022)</b>	<p><b>Two projects in construction</b> with no change to their delivery timetable.</p> <p><b>Four projects in construction</b> with a delay of six months to their open for traffic date to incorporate and test stopped-vehicle detection equipment.</p> <p><b>Eleven projects paused</b> with no current approval or plan in place to begin work.</p>
<b>Reasons for change</b>	<p>In November 2021, the Transport Select Committee published its report into safety and public confidence in smart motorways. It recommended that government pause the rollout of all lane running motorways until five years of safety data are available for the 112 miles of all lane-running motorway currently in operation. The Department for Transport agreed to pause 11 projects and wait for data to become available, expected in early 2025. Six other projects continued as they were already in construction and more than 50% complete.</p> <p>The report also recommended a retrofit of emergency refuge areas on existing all-lane running motorways at a maximum of one-mile intervals. Funding for the 11 paused projects has been reallocated to fund these and other improvements.</p>
<b>Future challenges</b>	Should the decision be taken to recommence the 11 paused projects, National Highways will need to find funding to complete them.

**Notes**

- 1 National Highways funds road enhancement projects in five-year investment periods called ‘road periods’. Road period two runs from April 2020 to March 2025.
- 2 The Transport Select Committee’s report and Government’s response can be found at: HC Transport Committee, *Rollout and safety of smart motorways*, Third report of session 2021-22, HC 26, November 2021 and HC Transport Committee, *Rollout and safety of smart motorways: government response to the Committee’s third report*, Sixth special report of session 2021-22, HC 1020, January 2022.

Source: National Audit Office review of Transport Select Committee, Department for Transport and National Highways’ information

**1.18** In November 2021, the Transport Select Committee reported on the rollout and safety of smart motorways. It recommended several actions, including that the construction of new all-lane running smart motorways should be paused until five years' worth of safety data were available on existing motorways of that type.

**1.19** Government agreed with the Transport Select Committee recommendations and in January 2022 DfT announced that National Highways would pause work on 11 smart motorway projects that were yet to commence construction. These changes account for the reduction in the total number of projects in the delivery plan from 69 to 58. This has not led to a significant reduction in planned expenditure as National Highways, in agreement with DfT, reallocated £635 million of the £745 million funding to:

- retrofit additional emergency areas to existing smart motorways;
- install new safety measures and concrete barriers on the motorways where plans to convert them to smart motorways had been paused; and
- install CCTV and other safety measures on other motorways.

### **Nationally significant infrastructure projects**

**1.20** National Highways' 2020 delivery plan included 33 nationally significant infrastructure projects. These are large-scale developments that must receive development consent before they can begin. Going through this process tends to indicate a project will be complex. Prior to 2020, National Highways had received development consent orders for seven projects, none of which were subject to legal challenge.

**1.21** A development consent order removes the need to obtain several consents that would otherwise be necessary. This is intended to speed up the time taken for nationally important projects to receive consent. The process for obtaining a development consent order for work is set out in legislation. The Planning Inspectorate and the Secretary of State, who makes the final decision, must consider applications against a technical and strategic plan, *the National policy statement for national networks*.<sup>4</sup> They must also be satisfied that the application complies with other relevant legislation and that any adverse impacts are outweighed by the benefits.

<sup>4</sup> The *National policy statement for national networks* sets out the need and government policies for significant road projects in England.

**1.22** The *National policy statement for national networks* was published in 2014. Since then, there have been several policy changes that are relevant to road enhancement projects. These include changes relating to environmental impact assessments, greenhouse gases, biodiversity and a legal commitment to net zero carbon emissions. The Planning Inspectorate must scrutinise how applications from National Highways comply with these policy changes. Failure to comply can be grounds for legal challenge. In recent years there has been heightened scrutiny and challenge of major infrastructure works by pressure groups, in relation to their cumulative carbon impact. We highlighted the potential for challenge to one project during or after the development consent order process in our report *Improving the A303 between Amesbury and Berwick Down*.<sup>5</sup>

**1.23** In June 2019, ORR provided advice to National Highways and DfT on the second road strategy and identified that 11 projects requiring development consent orders were at risk of delay. National Highways responded by agreeing changes to the delivery milestones of six projects with DfT and by taking steps such as attempting to secure a shorter decision period for the other five. National Highways assessed risk on a project basis, rather than across its portfolio of projects. National Highways did not distinguish between risky and less risky projects when setting dates to start work, making the same allowance for a slippage in the schedule on all projects.

**1.24** Since 2020, National Highways has experienced delays relating to development consent orders. National Highways and DfT have identified that a more challenging consent environment has resulted from changes in policy – including changing requirements to consider the natural environment – and increasing stakeholder appetite for challenge. Up to May 2022, there were delays relating to eight projects in receiving development consent, including two where legal challenges were successful (see **Figure 7** on the A303) and two where delays were partly caused by the impact of the COVID-19 pandemic on the development consent process. National Highways also delayed submitting four projects for development consent, and withdrew one application (see **Figure 8** on the Lower Thames Crossing on page 24), to allow further work and engagement with stakeholders. The withdrawn application was resubmitted in November 2022.

**1.25** National Highways told us it did not expect to experience delays as all its previous applications for development consent orders were dealt with within the statutory timescales. In providing feedback on applications, the Planning Inspectorate told National Highways that it needed to take greater account of the legal framework in which it was applying rather than rely on the 2014 national policy statement. In July 2021, DfT announced a review of the national policy statement, with an update expected no later than spring 2023.

5 Comptroller and Auditor General, *Improving the A303 between Amesbury and Berwick Down*, Session 2019-20, HC 2104, National Audit Office, May 2019.



**Figure 7**

## The A303 Amesbury to Berwick Down project (Stonehenge Tunnel)

**The project to build a new dual carriageway and tunnel close to Stonehenge is due to start two years later than planned due to substantial delays in the required development consent process**

<b>Background</b>	<p>The A303 Amesbury to Berwick Down project is part of a wider programme of A303/A358 corridor improvements which aim to reduce congestion and improve journey times. The project plans to replace eight miles of single carriageway road with a dual carriageway, including a two-mile tunnel close to Stonehenge.</p> <p>The project requires approval from the Secretary of State through a development consent order.</p>
<b>Status</b>	In development, not yet approved.
<b>Current estimated cost</b>	Between £1.1 billion and £2.4 billion <sup>1</sup>
<b>Current estimated start date</b>	2024-25, two years later than originally planned.
<b>Reasons for delay</b>	<p>The Secretary of State approved the project's development consent order in November 2020, against the recommendation of the Planning Inspectorate. In July 2021, the High Court ruled against this decision following a judicial review brought about by a crowdfunded legal campaign group. The project's approval was cancelled on the basis that there was insufficient evidence of the impact of each individual road asset included in the project on the Stonehenge UNESCO world heritage site and that alternate projects had not been considered. National Highways is awaiting further decision from the Secretary of State. The project is at risk of missing its start of work date commitment due to the delays in the development consent order process.</p>
<b>Future challenges should the project be approved</b>	<p>There may be further opposition and legal challenge if the decision is taken to approve the project.</p> <p>Archaeological work (planned to take 18 to 20 months) may identify finds that lead to delays. In 2020, the development consent order decision was delayed by four months following an archaeological find.</p>

**Notes**

- 1 Current estimates of cost and start date are given as at September 2022. The current estimate of cost reflects National Highways' estimate of total outturn.
- 2 We reported on progress on the A303 Amesbury to Berwick Down project in 2019. Our report is available at: [www.nao.org.uk/wp-content/uploads/2019/05/Improving-the-A303-between-Amesbury-and-Berwick-Down.pdf](http://www.nao.org.uk/wp-content/uploads/2019/05/Improving-the-A303-between-Amesbury-and-Berwick-Down.pdf).

Source: National Audit Office analysis of National Highways information

**Figure 8**

## The Lower Thames Crossing project

**The project to build a new road connecting Kent and Essex via a tunnel under the Thames has been delayed, causing cost increases and movement of work into the next road period**

<b>Background</b>	<p>The Lower Thames Crossing is planned to be a new 14.3-mile road connecting Kent and Essex. It will include two 2.6-mile road tunnels under the Thames, which will be the longest road tunnels in England. It also includes new structures and will require changes where the project connects to the current road network.</p> <p>The project requires approval from the Secretary of State through a development consent order.</p>
<b>Status</b>	In development, not yet approved.
<b>Current estimated cost</b>	Between £5.3 billion and £9 billion <sup>1</sup>
<b>Cost increase since March 2020</b>	c.£1.9 billion
<b>Current estimated start date</b>	2024-25, two years later than originally planned.
<b>Reasons for cost increase and delay</b>	<p>The project's development consent order application was submitted, but then withdrawn in November 2020. This was based on early feedback from the Planning Inspectorate and to enable National Highways to address specific points. An updated application was submitted in November 2022. Costs have increased due to delays with the development consent order submission, inflation and broadened scope changes to meet safety and environmental requirements. The delays have in part been caused by the requirement to re-design the project following the introduction of government's policy on freeports due to an overlap between land required for the proposed Thames Freeport and Lower Thames Crossing project.</p>
<b>Future challenges should the project be approved</b>	<p>The project has the largest forecast underspend of any project due to delays in the development consent process. National Highways is forecasting it will have spent £1.5 billion less than planned by March 2025. This led to a £1.6 billion reduction in budgeted spend for the period April 2020 to March 2025 as part of the 2021 Spending Review. As a result, considerable activity planned for road period two has been moved into the next road period (April 2025 onwards) and will require funding.</p> <p>If approved by the Secretary of State, the project may face opposition from environmental campaign groups.</p>

**Notes**

- 1 Current estimates of cost are given as at August 2020. The current estimate of cost reflects National Highways' estimate of total outturn.
- 2 Current estimate of start date is given as at September 2022.

Source: National Audit Office analysis of National Highways' information

## **National Highways' assessment of portfolio level risk**

**1.26** We examined how National Highways assessed and managed portfolio-level risks across its road projects to understand if it was well placed to identify the problems that could lead to changes and delays to planned projects. These include risks that cannot always be specified in advance, that are outside the control of individual projects or programmes and that will impact a whole portfolio.

**1.27** In planning its portfolio of road enhancements for delivery between April 2020 and March 2025, National Highways learned from the first road strategy to manage some portfolio-level risks. It focused on the overall affordability of the portfolio and getting the right balance in overprogramming following the problems that occurred between April 2015 and March 2019, and on including projects that met the priorities of ministers.

**1.28** National Highways also developed a list of 21 portfolio level risks. These included: environmental issues; protestors and legal challenge; capacity of the supply chain; delay in the development consent process; and changes in government priorities. However, it could have done more to develop plans to monitor and mitigate the portfolio-level risks it identified in planning. National Highways focused on the impact that some issues may have on individual project schedules and costs in its quarterly reporting.

**1.29** In 2017, a review commissioned jointly by National Highways and ORR recommended that National Highways adopt a consolidated view of risks and underlying issues across its portfolio of enhancement projects. National Highways has been maturing its approach to managing portfolio-level risks over the second road strategy. It has also focused attention on managing risks as they materialised, including changes in policy relating to smart motorways and achieving development consents. Improvements to the monitoring of the risks, which National Highways identified in planning, may not have stopped them emerging but might have put National Highways in a better position to respond.

## Part Two

### Progress with the revised delivery plan

**2.1** National Highways' delivery plan runs until March 2025. Following the revisions to the plan, as at September 2022 National Highways plans to spend £8.7 billion on the remaining 58 enhancement projects between 2022-23 and 2024-25. Over that period National Highways plans to start construction work on 23 projects and open 28 projects for traffic. Following delays and cost increases in the first two years of the Road Investment Strategy (the road strategy), we examine how well-placed National Highways and DfT are to achieve the revised plan. We examine:

- National Highways' management of the risk of further delays; and
- National Highways' management of cost pressures.

#### Managing the risk of further delays

**2.2** National Highways monitors whether each of its projects is at risk of missing the target dates for starting construction work or opening projects for traffic. In March 2022, National Highways reported that 22 (38%) of its 58 enhancement projects were at risk of not meeting a key delivery milestone (**Figure 9**).<sup>6</sup> By September 2022, this had reduced to eight projects. National Highways achieved this by agreeing with DfT to delay the original delivery commitments for 14 projects in response to delays on the projects.

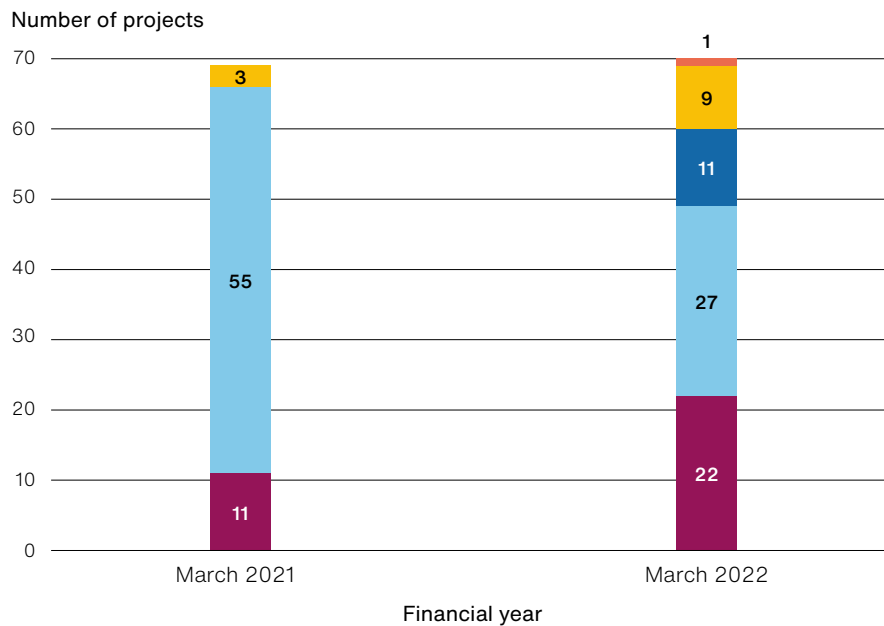
**2.3** National Highways has identified that the key issue causing delivery risk is obtaining development consent orders for its projects. National Highways has responded by working with DfT to try to mitigate risks in the development consent process. In June 2021, National Highways and DfT agreed an action plan to respond to delays in obtaining development consent orders.

<sup>6</sup> This relates to either start of work or open for traffic dates and includes dates scheduled for between 2020 and 2030. Open for traffic risk ratings have not been provided for two projects.

### Figure 9

#### Projects at risk of missing their delivery commitments in March 2021 and March 2022

In March 2022, National Highways flagged risks to the start of work or open for traffic dates for 22 projects



- At risk
- Not at risk
- Paused
- Complete
- Cancelled

#### Notes

- 1 National Highways monitors progress on each of its road enhancement projects. Projects 'at risk' include those where National Highways has flagged the possibility of the project missing either or both of its start of work or open for traffic date commitments.
- 2 In March 2021 and March 2022, there were three and two projects respectively for which no risk rating was given for their scheduled open for traffic date. In these cases, we categorised them by start of work risk rating only.
- 3 In March 2021, National Highways' enhancement portfolio included 69 projects. One additional project was by March 2022.
- 4 In January 2022, government decided to pause 11 smart motorway projects in response to recommendations made by the Transport Select Committee. One further project was cancelled due to poor value for money.
- 5 In September 2022, the number of projects at risk had reduced to eight. National Highways achieved this by agreeing with the Department for Transport to delay the original commitments through its change control process.

Source: National Audit Office analysis of National Highways data

**2.4** In June 2021, National Highways started implementing this action plan. It sets out steps that National Highways will take working with DfT and the Planning Inspectorate. These include:

- developing a risk matrix for projects, to identify where greater focus and stakeholder engagement is required;
- regular engagement with the Planning Inspectorate;
- reviewing trends in recommendations from the Planning Inspectorate across projects;
- reviewing its approach to reduce the number of outstanding issues that the Secretary of State needs to consider in their decision; and
- developing a response to legal challenge on the grounds of the cumulative effects of greenhouse gas emissions from projects alongside existing and planned work.

**2.5** National Highways now considers the risk to its portfolio from delays to development consent orders to be lower following these actions. So far in 2022, eight projects have been approved (by 16 November). National Highways is awaiting an outcome on applications for a further six projects. It assessed three as being at high risk of delay from legal challenge. Two of the six projects awaiting outcomes were challenged by stakeholders but these challenges were rejected by the High Court, however, they could go to appeal.

**2.6** In September 2022, government announced its intention to make changes to the development consent requirements for infrastructure projects. This includes an intention to introduce “reforms to accelerate road delivery through more streamlined consent processes”.<sup>7</sup>

## **Managing cost pressures**

**2.7** As with any organisation delivering infrastructure projects, National Highways faces several pressures relating to costs. In this section we look at: how National Highways is managing the risk of project costs outweighing the benefits; inflationary pressures; and how National Highways has managed its contingency budget.

### Managing project level value for money risks

**2.8** While projects are in development there may be changes that result in the estimated costs increasing or the expected benefits changing. National Highways monitors projects where the benefit-cost ratio falls between 1:1 and 1:1.5 (low value for money) and where it falls below 1 (poor value for money).

<sup>7</sup> HM Treasury, *The Growth Plan 2022*, CP 743, September 2022.

**2.9** National Highways maintains a watchlist of projects rated low or poor value for money, which it shares regularly with DfT for discussion. Since 2020, DfT has agreed to cancel one project that was rated as poor. In February 2022, DfT formally notified National Highways that two projects on the watchlist had been deprioritised as an outcome of the 2021 Spending Review. These two projects remained in the portfolio awaiting a final decision on whether to proceed but their funding has been removed. In September 2022, one of these deprioritised projects – A1 dualling Morpeth to Ellingham – was identified for acceleration by government in its *Growth Plan*, despite remaining on National Highways' watchlist as poor value for money. There is now an expectation that National Highways would start construction on the majority of its schemes in the *Growth Plan* by the end of 2023. It is not yet clear how National Highways will fund the cost of acceleration or works (estimated to be at least £216 million in March 2021), or if additional funding will be provided.

**2.10** In September 2022, there were four projects on the watchlist rated as poor value for money and four as low value for money. This includes the two largest projects in the portfolio by value – the Lower Thames Crossing project and A303 Amesbury to Berwick Down project (Stonehenge Tunnel), both rated as low value for money. Projects that remain on the portfolio below the required value-for-money threshold are agreed with DfT.

### National Highways' contingency budget

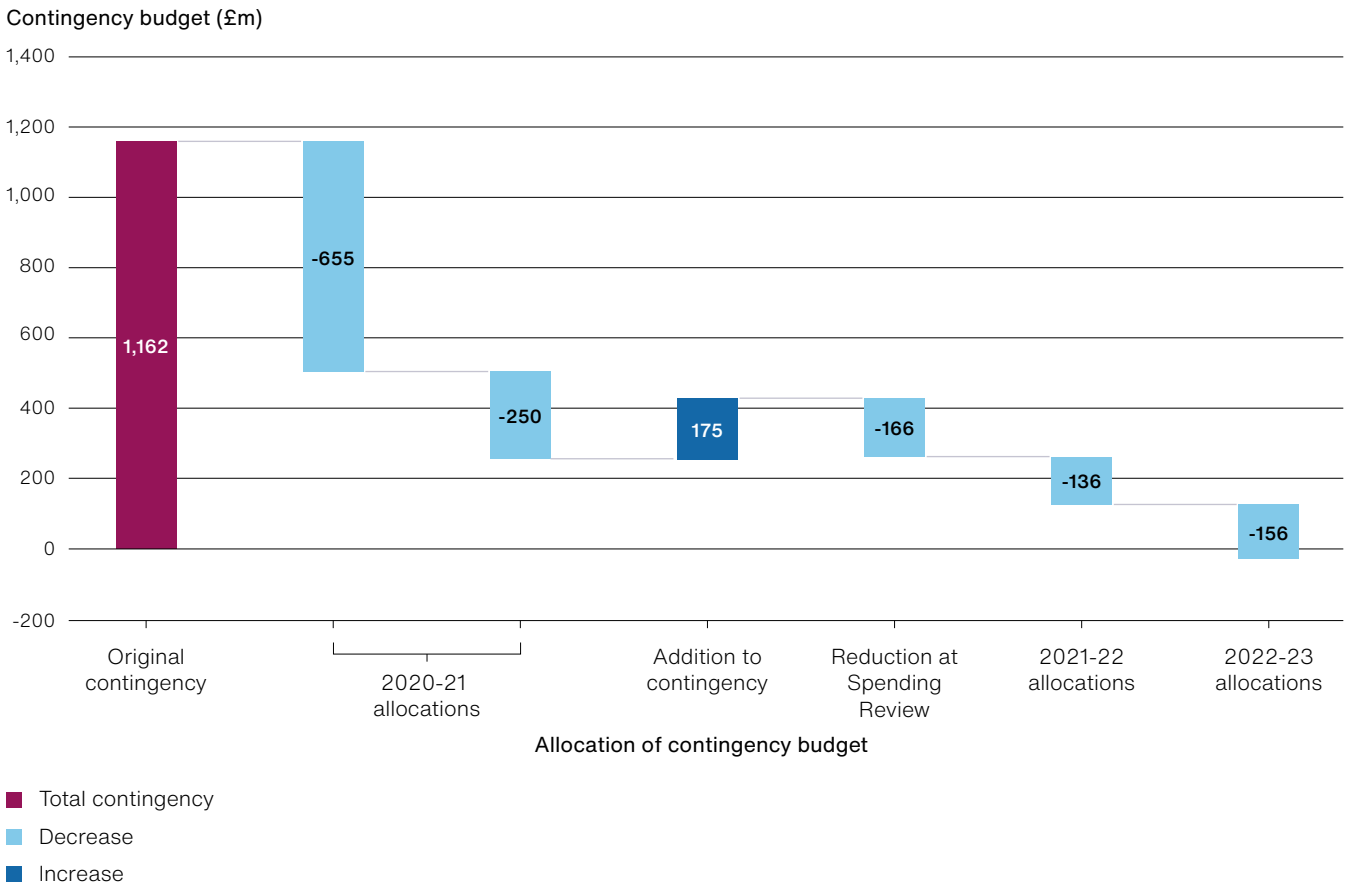
**2.11** National Highways' funding for the five years between April 2020 and March 2025 includes a £1.16 billion contingency budget for risks outside of the control of individual projects. This was introduced following National Highways' experience before 2020 where, without any contingency, its main response to cost pressure was to delay projects. DfT intended that the contingency would require National Highways to apply greater project management discipline.

**2.12** By July 2022, National Highways had allocated all of the contingency for the five-year road strategy. In the first year (2020-21), National Highways committed £655 million (56%) of the contingency to address cost increases in projects between the draft road strategy in 2018 and final publication in 2020. National Highways told us that the contingency was not supposed to be used in this way, but that reopening the budget would be challenging at that stage of the timetable. A further £533 million (net) was allocated between April 2020 and July 2022, taking the total contingency committed to £1.19 billion, £26 million more than the initial budget (**Figure 10** overleaf).

**Figure 10**

National Highway’s allocation of its enhancement contingency budget, April 2020 to July 2022

**In two years, National Highways has allocated £1,188 million of the contingency for road enhancement projects that it had for five years, £26 million more than the original budget**



**Notes**

- 1 Allocation in 2020-21 included £655 million used to address cost increases for projects which occurred between 2018 and 2020.
- 2 In 2020-21, £175 million was added to the contingency budget due to anticipated future risks on the A303 Amesbury to Berwick Down (Stonehenge Tunnel) project.
- 3 In 2021-22, the Spending Review reduced enhancement contingency by £166 million.
- 4 Allocations for 2022-23 reflect activity in the first quarter only (April to June).
- 5 Allocations are forecast values of demand as opposed to finalised drawdown of contingency.

Source: National Audit Office analysis of National Highways and Office of Rail and Road data



**2.13** An external review commissioned by ORR in March 2022 found the contingency budget had not been managed as expected. It found that, in some cases, the contingency had been used for costs emerging at the project level rather than risks at the portfolio level for which it was designed and concluded the governance needed to be improved. It was unclear whether those within National Highways deciding on the use of the contingency budget had adequate assurance on whether the risks it was used for were appropriate or whether sufficient steps had been made to avoid using it. The review also found that National Highways does not track use of the reserve against the type of risks it is intended to cover, making it hard to establish what it has been used for.

**2.14** The majority of contingency used to date has been due to cost pressures which arose before inflation increased. National Highways told us that some of the contingency allocations in 2022-23 reflected cost pressures from inflation beginning to materialise on projects. ORR had raised concerns that the contingency would be too little to manage unforeseen costs, including inflation, for the remainder of the road strategy. National Highways expects to be less reliant on its contingency in future as its projects are more mature. Where further cost increases do arise, it told us it plans to manage these across its portfolio by delaying some work into the next road period, after 2025.

### **Cost pressures from inflation**

**2.15** National Highways is experiencing inflationary pressures across its road projects. In September 2022, the Office for National Statistics reported a rise in the price of materials and fuel for manufacturing of 20.5% in the year to August 2022. In comparison, when National Highways prepared budgets for road period two, inflation was lower and it assumed average inflation of 4% over that period, which ORR reviewed as being reasonable for the period. In July 2022, ORR identified inflation as the largest financial risk facing National Highways and the delivery of road projects.

**2.16** In July 2022, National Highways estimated the additional pressures from inflation on capital costs to be around £740 million. The greatest impacts of inflation are expected to be felt after 2023 as construction work peaks and once current delivery contracts come to an end and costs must be renegotiated. In addition, any delays on projects which were initially planned to open for traffic before 2023 may lead to unanticipated costs as they become exposed to higher inflation on construction costs.

**2.17** The extent of inflationary cost pressure is beyond the levels that can be absorbed by National Highways and it may have to delay work, de-scope projects or cancel projects to remain within its overall budget. Similarly, DfT is experiencing cost pressures from inflation across its programme of transport infrastructure work across rail and road. DfT cannot absorb the level of inflation risk within its budgets and deliver its work as planned. It is not clear how DfT and National Highways will absorb these costs. Inflation is also likely to increase the estimated cost of completing ongoing projects in the next road strategy, from April 2025. National Highways and DfT are assessing how to respond to these cost pressures.

## Part Three

### Preparations for the third road strategy (April 2025 to March 2030)

**3.1** National Highways and the Department for Transport (DfT) are in the process of preparing the third Road Investment Strategy (the third road strategy). This will set out government's priorities for the strategic road network for the five years from April 2025 to March 2030 and the funding that will be provided. This part examines:

- road enhancement projects that National Highways have committed to deliver in the third road strategy;
- the extent to which National Highways and DfT are applying lessons learned to the next road strategy; and
- government's strategic objectives for the next road strategy.

#### **Road enhancement projects in the next road strategy**

**3.2** DfT is committed to continue funding road enhancement projects from the second road strategy, if they remain feasible and offer sufficient value for money. Projects that have not been completed by March 2025 will be funded as part of the third road strategy, alongside any new enhancement projects, subject to budget discussions with HM Treasury.

**3.3** In 2020, National Highways estimated that it would spend around £5.5 billion between April 2025 and March 2030 on enhancement projects that had been approved as part of the second road strategy. Following the delays to road projects this estimate has increased by £6 billion to £11.5 billion. This increase does not take account of current inflationary pressures.

**3.4** Collectively, the existing projects that will be delivered during the third road strategy have a lower value-for-money profile than National Highways and DfT would typically aim for. National Highways is required to inform DfT if 20% by value of its portfolio of road enhancements falls below high value for money. As at September 2022, the breakdown by total cost to deliver the projects that will run into the third road strategy was:

- high value for money – 7%
- medium value for money – 17%
- low or poor value for money – 76%.<sup>8</sup>

These projects are not evenly distributed across the country. Around 80% of the projects by value are in the combined south-east, south-west and east of England due to the biggest projects being in these regions.

**3.5** National Highways has a capital budget of £500 million available to spend on developing a pipeline of potential enhancement projects that could be started during the next road strategy and has identified 31 potential projects. National Highways does not expect all these projects to be started, but the pipeline supports informed decision-making about future projects.

**3.6** DfT told us that it expects the level of work by National Highways in developing the pipeline to reflect the level of funding available in the budget once this is shared by HM Treasury. If limited funding for new projects is available, National Highways may not require the full £500 million development budget. Neither DfT nor HM Treasury were able to tell us when the size of the budget would be known. However, DfT currently plans to publish the draft third road investment strategy, which will include the budget, in May 2023. In our view, early agreement between HM Treasury with DfT will reduce the risk of wasted work being undertaken on projects in the pipeline.

### **Applying lessons learned to the next road strategy**

**3.7** National Highways and DfT are around halfway through the second road strategy. They have experience of planning and implementing the first and second road strategies from which to draw lessons that will support the development of future road strategies. We reviewed lessons learned exercises and identified areas for improvement in the next road strategy.

<sup>8</sup> Numbers do not sum due to rounding. National Highways and DfT categorise the value for money of projects on their benefit-cost ratio. High or very high value-for-money projects have a benefit-cost ratio above 1:2.0; medium value for money projects have a benefit cost ratio between 1:1.5 and 1:2.0; low or poor value-for-money projects have a benefit-cost ratio below 1:1.5.

**3.8** We have, for example, seen evidence of formal lessons learned exercises focusing on different aspects of its work. National Highways has also drawn on its experience of delivering the road strategies since 2015 and sought to make improvements. Examples of this include: introducing the contingency budget, which was intended to reduce the need to delay or defer work to stay within budget, as happened in the first road strategy; strengthening the governance and information requirements on projects that are in development to help ministers make better-informed decisions; and improving the way changes to the road strategy are governed.

**3.9** We think there are also some wider lessons from implementing road strategies that National Highways and DfT can capture to prevent problems re-occurring. Based on our assessment of issues experienced across the first two road strategies, **Figure 11** on pages 36 and 37 sets out the areas we anticipate National Highways and DfT will want to prioritise in their preparation of road enhancements for the third road strategy.

### **Draft strategic objectives for the next road strategy**

**3.10** National Highways is preparing for the next road strategy against a challenging backdrop. As well as planning for how roads are used today, preparations must consider the longer term, beyond 2030. Areas of uncertainty include patterns of travel demand, changes in technology and vehicles, and heightened scrutiny of the environmental impact of roads. National Highways has set up workstreams to better understand and address these areas.

**3.11** DfT has established six draft objectives for the new strategy to achieve. These may change as planning develops. As we would expect in strategic planning, these draft objectives will be stretching to achieve. We set out our observations on these draft objectives including challenges and current performance in **Figure 12** on page 38. To deliver across this range of objectives within a funding envelope will require DfT and National Highways, and ultimately ministers, to make trade-offs and balance priorities in their selection of road enhancement projects.

**Figure 11**

Key areas for the Department for Transport and National Highways to consider in planning for the third road strategy, from April 2025 to March 2030

**We have identified six areas for the Department for Transport (DfT) and National Highways to consider in preparing the third road strategy**

Area for improvement	Issue detail	Our observation
Managing timetable pressures	The second road strategy was published in March 2020, three months after originally intended. The delivery plan was published in August 2020, four months after the beginning of the strategy period.	DfT told us it has built additional time into the later stages of the timetable to allow for the development of the Delivery Plan for the third road strategy. However, the timetable is not significantly longer than it was for preparing the second road strategy, which was not met.  The timetable has slipped by three months before the first major milestone has been reached. National Highways told us that the planning process for the third road strategy is ongoing and that it does not expect this slippage to cause a major delay.
Creating a balanced enhancements portfolio	The enhancements portfolio for the first road strategy lacked balance due to the inclusion of an excessive number of projects leading to an affordability issue and a geographic concentration of works, which had potential to cause significant disruption to users in these areas. This led to significant changes being made to the portfolio structure and profile in 2017.  The portfolio for the second road strategy lacked balance as it was dominated by high-risk and large projects alongside a programme of smart motorways where there was already considerable public concern over their safety.	The portfolio of enhancement projects that will pass into the next road strategy is unbalanced geographically and has a relatively weak value for money profile. In the absence of a significant budget uplift, or changes to planned work, it will be difficult to create a more balanced portfolio while also maintaining the current portfolio of projects.
Improved management of contingency	National Highways made a provision of more than half of its contingency budget (£655 million) before the second road strategy had begun. It told us this was not supposed to have happened and was due to costs increasing in the period between fixing its cost data in the draft strategic business plan and the publication of the Delivery Plan.	The pressures that contributed to the creation of the £655 million provision have not necessarily been addressed in the planning timetable for the third road strategy. Any significant changes following the creation of the draft strategic business plan could create the same conditions.  National Highways will also need to take steps to strengthen the reserve's governance arrangements.

**Figure 11** *continued*

Key areas for the Department for Transport and National Highways to consider in planning for the third road strategy, from April 2025 to March 2030

Area for improvement	Issue detail	Our observation
Strengthening risk assessment and reporting	National Highways' risk assessment for the second road strategy enhancements portfolio was focused on cost risk with only a limited focus on schedule risk analysis.	National Highways told us it recognises there is room for improvement in its risk assessment and reporting. It has yet to set out its approach for the third road strategy. It currently does not have a shared platform that links project and programme risk reporting with its portfolio management and corporate reporting functions.
Creating stability and certainty	DfT introduced road strategies to provide stability and certainty, which in turn allows National Highways and its supply chain to plan over the medium term. Some degree of change is to be expected. However, both road strategies to date have been characterised by substantial change.	Different factors have contributed to change across the two road strategies. In addition to strengthening risk assessment activities to anticipate potential issues in the third road strategy National Highways and DfT should look to identify what they can do differently to create a more stable and predictable portfolio.
Portfolio planning and management over the longer term	National Highways receives funding from HM Treasury for each five-year road strategy. However, the experience of the first two strategies shows how strongly inter-linked each strategy is with its predecessor as many projects will start in one period and finish in another.	There are opportunities for National Highways and DfT to learn from the interactions between the different strategies to date and to anticipate how the third strategy might interact with the fourth and its successors.

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

**Figure 12**

The Department for Transport’s six draft objectives for its third road strategy, from April 2025 to March 2030

**There are challenges ahead for National Highways in delivering on the Department for Transport’s (DfT’s) planned strategic objectives for the third road strategy**

Draft objective	Our observation
<p><b>Improving safety for all:</b> reducing the number of people killed or injured while using or working on the strategic road network.</p>	<p>National Highways has met its target for a 40% reduction in deaths and injuries by 2020 and has set a stretch target of 50% by 2025.</p> <p>Its aim is that no one should be killed or injured on the strategic road network by 2040.</p>
<p><b>Improved environmental outcomes:</b> managing and developing the network to minimise the impact on the environment and people.</p>	<p>National Highways’ current environmental targets are challenging. It is meeting its objective to reduce noise pollution but is not on track to achieve targets for biodiversity or air quality.</p> <p>While the increase in electric vehicles will address some issues relating to air quality, environmental targets are likely to be an area where expectations will continue to rise and new areas of focus are introduced. Work to achieve net zero carbon emissions on the strategic road network by 2050 will not be straightforward.</p>
<p><b>Network performance and Growing the economy:<sup>1</sup></b> making journeys smoother, reducing congestion and improving connectivity with other forms of transport.</p>	<p>National Highways is meeting its targets on reducing the average length of delay and the extent of the network impacted by roadworks.</p> <p>However, recurrent delays at certain times of the day on congested sections of the network account for two-thirds of all delays.</p> <p>Road enhancement projects can tackle local congestion. Demand management is an alternative solution but it is outside of National Highway’s remit and would require support from Ministers.</p>
<p><b>Managing and planning the strategic road network for the future:</b> ensuring the network remains in good condition and is resilient to extreme weather.</p>	<p>The network is ageing and ensuring it remains safe will need deeper maintenance.</p> <p>Planning for the next strategy will need to reflect the investment needed to maintain existing roads alongside any investment in road enhancements.</p>
<p><b>A technology-enabled network:</b> preparing for and making use of new technologies to improve the operation of the network and the experience of motorists.</p>	<p>National Highways will need to prepare for change without getting ahead of technologies.</p> <p>National Highways will need to consider how road users respond to, accept and adopt new technologies and what National Highways’ role is in supporting change.</p>

**Note**

1 We have combined two objectives Network Performance and Growing the economy due to the overlap between these areas.



# Appendix One

## Our audit approach

**1** This report evaluates how effectively National Highways and the Department for Transport (DfT) are managing risks to value for money across its portfolio of road enhancement projects in the Road Investment Strategy (the second road strategy), which runs from April 2020 to March 2025. Government plans and funds improvements to the strategic road network through road investment strategies. These typically last for five years and set out what DfT expects National Highways to achieve in that period.

**2** We divided our review into:

- an examination of National Highways' delivery of its portfolio of road enhancement projects in 2020-21 and 2021-22 and its management of risk;
- an examination of whether National Highways and DfT are better placed to deliver the portfolio of road enhancement projects over the remaining three years of the strategy; and
- the steps National Highways and DfT are taking to plan for the next road strategy.

**3** The second road strategy includes a range of other spending areas in addition to road enhancement projects. We focus on enhancements as it is the largest area of National Highways' spend and there were already signs of slippage and delay early in the life of the strategy. There has also been significant change and re-profiling within the portfolio for the first road strategy.

**4** We focus on the road projects (and any associated use of the central risk reserve) within the enhancements portfolio. These are set out in National Highways' 2020 Delivery Plan. We do not focus on other marginal spend in National Highways' enhancements budget, such as on legacy projects.

## **Developing our audit questions**

**5** In developing our audit questions and framework, we drew on a range of frameworks and guidelines developed by us and government bodies. These included our November 2020 report *Lessons learned from Major Programmes*; and our April 2021 guidance *Framework for reviewing programmes*, and our January 2022 guidance *Framework to review portfolios*. We also drew on the Infrastructure and Projects Authority's (IPA's) *Assurance Workbook on Portfolios and Portfolio Management* and its *Project Delivery Continuous Improvement Assessment framework*. We also used Transport Analysis Guidance published by DfT.

## **Our evidence base**

**6** We reached our independent conclusions on whether National Highways, along with DfT is managing risks to value for money across its portfolio of road enhancement projects after analysing evidence collected between April and August 2022. In general, the evidence presented in this report and used to reach our conclusions is based on documentary evidence or data analysis. Our interviews and workshops helped inform our understanding of the issues and helped focus our document and data work.

## **Interviews**

**7** We undertook 34 interviews with seven different bodies. We used information from these interviews to build our understanding of the relevant topics and to inform further interview requests. Most importantly, we used these interviews to inform our document requests and review work. With a small number of exceptions, we have used documentary evidence to reach our judgements rather than interview evidence. Interviewees were identified by the organisations themselves and were selected on the basis of the fit between their job role and expertise and the focus of each interview.

**8** All our interviews were face-to-face but were conducted virtually using Microsoft Teams. We did not record the interviews. A note of each was taken by the National Audit Office (NAO).

**9** We conducted 23 interviews with officials from National Highways and DfT. In almost all cases these were joint meetings with officials from both bodies present. Our interviews covered: the delivery of the road enhancements portfolio during the first road strategy; the development of the second road strategy and the road enhancements portfolio; the funding arrangements for the second road strategy; the delivery of the road enhancements portfolio to date; risk and portfolio management; benefits realisation; the central risk reserve; commercial frameworks; development consent orders; and preparations for the third Road Investment Strategy. We also had interviews focused on the Lower Thames Crossing and the A303 Amesbury to Berwick Down road enhancements.

- 10** We conducted five interviews with the Office of Rail and Road (ORR). Our interviews covered; ORR's role in the development and monitoring of the road strategies; the delivery of the first road strategy; the delivery of the second road strategy; and planning for the third road strategy.
- 11** We conducted two interviews with the Planning Inspectorate. Our interviews focused on developments in the development consent order process in recent years and the factors underlying delays to consents in recent years.
- 12** We spoke to Transport Focus regarding its role in the development of the second road strategy and in early planning for the third road strategy.
- 13** We spoke to HM Treasury about the funding arrangement for the second road strategy and early planning for the third strategy. We also interviewed the IPA regarding its oversight of the 'Tier 1' projects within National Highways' portfolio.
- 14** We spoke to the Institution for Civil Engineers. We interviewed their trustee for policy and external affairs to develop our understanding of how the introduction of road strategies had impacted the supply base. We used this interview to inform the workshops we ran with suppliers.

### **Supplier workshops**

- 15** We ran four workshops with suppliers involved in delivering road enhancement projects in either the first or second road strategies. The workshops were organised by four separate stakeholder bodies: the Association for Consultancy and Engineering; the Institution for Civil Engineers; the Chartered Institution of Highways and Transportation; and the Civil Engineering Contractors Association.
- 16** Attendees were identified and invited by the stakeholder bodies. Across the four workshops we had 25 participants from 10 separate firms. The sessions focused on: suppliers' experiences of the first and second road strategies and their hopes and expectations for the third strategy.
- 17** All four workshops were conducted virtually using Microsoft Teams and were chaired by the NAO. The workshops were not recorded. A note of each was taken by the NAO.
- 18** We used information from the workshops to inform our interviews and data requests with National Highways and DfT. We have not presented any evidence from these workshops in the report or used them directly to reach our judgements.

## **Document review**

**19** We undertook a substantial amount of document review. This included review of:

- official documents relating to formal stages in the development and implementation of the first and second road strategies including; the initial reports; the draft strategies; the strategies themselves; the draft strategic business plan for the second strategy; ORR's efficiency review for the second strategy; and a number of delivery plans produced by National Highways;
- governance documents such as National Highways' licence, its finance and reporting and the change control protocols agreed between National Highways and DfT. We also reviewed National Highways' internal governance policy documents on issues such as risk analysis and management, change control and use of the central risk reserve;
- external monitoring materials and documents such as published reports from National Highways and ORR. These included reports commissioned by ORR on issues such as National Highways' use of the central risk reserve;
- internal monitoring documents such as quarterly and bi-annual monitoring reports produced by National Highways for ORR and DfT, and reports to, and the minutes of, National Highways' board and investment committee and DfT's investment portfolio and delivery committee;
- departmental documents such as the business case for the second road strategy, the submissions to HM Treasury for the 2020 and 2021 Spending Reviews and the government's response to the Transport Select Committee report on smart motorways;
- risk assessment and management material provided by National Highways. This included the framework used to assess portfolio risk for the second strategy and the framework used for recording project-level risk;
- planning documents, schedules and strategy papers for the third road strategy produced by DfT; and
- working papers and strategies produced by National Highways and DfT. These included lessons learned reports, the development consent action plan and reviews of the cost implications of development consent delays and inflation.

**20** This material informed all elements of the study but was particularly relevant in our examination of: the factors contributing to the delays to date in the delivery of the enhancements portfolio; the steps taken by National Highways to assess and manage risk in the portfolio; the risks to delivery of the portfolio up to March 2025; National Highways' use of its central risk reserve; lessons learned by National Highways and DfT; and the challenges National Highways faces in delivering its strategic objectives in the third road strategy.

## Data analysis

**21** We analysed a range of data provided by National Highways including:

- baseline and quarterly budget and cost data which we used to examine the relationship between funding for the second road strategy and the overall timeframe and lifetime costs for the projects in the portfolio, changes in the lifetime costs of individual projects and the movement of planned spend from the second to the third road periods. We also used these data to analyse the regional distribution of planned spend;
- baseline and quarterly scheduling data, which we used to examine changes in the content of the portfolio and the delivery schedules for individual projects. We also analysed the extent to which these schedules were at risk based on National Highways' own assessment; and
- baseline and quarterly data on National Highways' assessment of the likely value-for-money of each project. We used this information to examine the exposure of the portfolio to poor and low value-for-money projects, and the value for money profile of projects that will continue into the third road strategy.

**22** Our data on National Highways' progress in relation to applying for and receiving development consent orders are taken from ORR's annual assessment of National Highways' performance for 2021-22. Our data on delays in receiving consents to date are sourced from National Highways' working papers.

**23** Our data on National Highways' use of its central risk reserve are taken from ORR's annual assessment of National Highways' performance for 2021-22 and a National Highways working paper.

**24** Our data analysis provided important contextual information to set out the scope and profile of the enhancements portfolio in the report, but we drew on it in particular in examining: the cost and scheduling changes in the portfolio to date; the remaining level of risk in the portfolio and the capacity of National Highways to mitigate this through its central risk reserve; and the extent to which slippage in the second road strategy is creating potential pressure on the third strategy.

**25** We combined the results of our data analysis work with the outputs of our document review in a series of working papers focused on key issues in the study. We used these papers to inform our judgements.



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