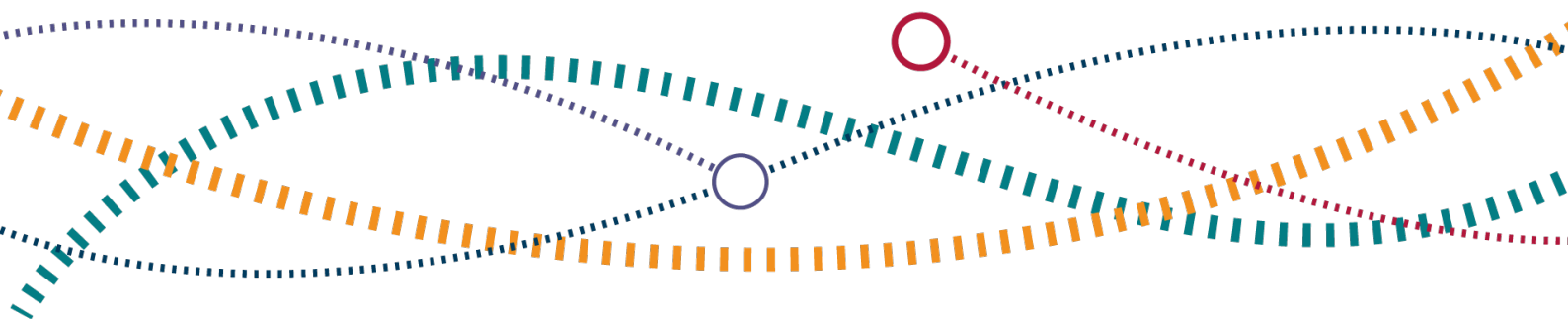# ORR investigation into National Highways' compliance with its licence and delivery of the second road investment strategy (RIS2)

Investigation evidence report

13 June 2024

Contents

Executive summary

1. This report summarises the evidence we gathered in our investigation into National Highways' compliance with the second road investment strategy (RIS2) and its licence, launched on 14 February 2024, and our analysis and assessment of that evidence. This report was shared for factual review with the company and incorporates its corrections where appropriate.

2. **This report should be read alongside the case to answer letter we issued to National Highways on 22 May 2024 and its response to us, provided on 5 June 2024 (both published alongside this document).**

3. The report:

   a) provides an overview of the statutory framework within which the Office of Rail and Road (ORR) and the strategic highways company (National Highways) work;

   b) introduces the context for the investigation, and how we undertook and delivered the investigation;

   c) describes the targeted sample of six areas of interest we examined as part of the investigation (designated funds, missed enhancements commitments, asset management (strategy), asset management (renewals), average delay key performance indicator (KPI) and pavement condition KPI);

   d) for each area of interest this report sets out what National Highways told us, the evidence it provided to support this, our assessment of its performance against elements of the planning and delivery cycle and our key conclusions on each area of interest; and

   e) provides our strategic conclusions based on the evidence presented in this report and how these relate to our assessment of compliance against National Highways' licence conditions (also stated together in our case to answer letter).

1. Purpose and structure of this report

1.1   This report summarises the evidence we gathered in our investigation into National Highways' compliance with the road investment strategy (RIS) and its licence, launched on 14 February 2024, and our analysis and assessment of that evidence. This report was shared for factual review with the company and incorporates its corrections where appropriate.

1.2   **This report should be read alongside the case to answer letter we issued to National Highways on 22 May 2024 and its response to us, provided on 5 June 2024 (both published alongside this document).**

1.3   **In chapters 3-8 we have set out our assessments and conclusions based on the evidence received in interviews and the documentation National Highways provided to us as part of the investigation. In its response to our case to answer letter the company set out its views on our overall conclusions and where it interprets information differently.**

1.4   The report is structured as follows:

(a)   **chapter 2** provides an overview of the statutory framework within which the Office of Rail and Road (ORR) and the strategic highways company (National Highways) work, including relevant policies. It introduces the context for the investigation, and how we undertook and delivered the investigation;

(b)   **chapters 3 to 8 and the annexes** describe for the targeted sample of six areas of interest we examined as part of the investigation (table 2.1) what National Highways told us, the evidence it provided to support this and our assessment of its performance against the planning and delivery cycle (figure 2.1). At the start of each chapter is a heatmap showing how we evaluated the company in each area of interest against the relevant element(s) of the cycle. Figure 2.2 describes what the evaluation means. Each chapter ends with our key conclusions on this area of interest; and

(c)   **chapter 9** sets out our strategic conclusions based on the evidence presented in this report and how these relate to our assessment of compliance against National Highways' licence conditions (also stated together in our case to answer letter).

2. Introduction and approach

Legal framework

2.1   ORR is the independent Highways Monitor. We have regulatory and enforcement powers, set out in legislation, to hold National Highways to account to ensure that it manages, operates and improves the strategic road network (SRN) in England efficiently and effectively on behalf of road users and taxpayers.

2.2   The Highways Monitor was established under section 10 of the [Infrastructure Act 2015](#) ('the Act') as one of the key parts of Roads Reform, to drive performance, efficiency, accountability and transparency in National Highways.

2.3   We carry out our regulatory activities in line with our statutory duty to be transparent, accountable, proportionate, and consistent, and to target our activities only at cases in which action is needed (section 12(3) of the Act).

2.4   We have powers under the Act to investigate and report on National Highways' activities and to take enforcement action if we conclude that the company is not compliant with the [road investment strategy (RIS)](#) set by government or not compliant with or not having regard to the statutory directions and guidance set out in its [licence](#) (section 10(2) of the Act). Enforcement action includes the power to issue notices and/or fines to the company (section 11 of the Act).

National Highways' performance and delivery in the second road period (RP2)

2.5   Over the past nine years, National Highways has generally achieved its aims and delivered for road users, taxpayers, and communities. In that time, we have worked with the company, in line with our [holding to account policy](#) (March 2020), in a proportionate and targeted way to successfully resolve individual risks and concerns before they crystalised into issues affecting road users. This approach has meant that we have only once had to investigate the company's performance and have never opted to use our enforcement powers.

2.6   In our last [annual assessment](#) of National Highways' performance, published in July 2023, we said that generally the company had delivered well for road users in the year. However, we highlighted some risks for the company to manage on missed commitments and asset management. Since then, some of those risks

have crystallised and we have observed that in a number of areas the company's performance and delivery has declined.

2.7   During this time, we continued to work with National Highways, to try to gather sufficient evidence to demonstrate that the company understands how its plans and activities on the ground link to, and deliver, its targets and commitments in the second road investment strategy (RIS2) and its broader duties under its licence.

2.8   We concluded that while each individual item of concern was potentially manageable, the number and breadth of our concerns, the repetitive nature of many concerns, and the proximity to the end of the second road period (RP2, April 2020-March 2025), meant that a more formal approach to assessing National Highways' performance was appropriate (paragraph 5.24 of our holding to account policy).

Our investigation

2.9   We launched an investigation into National Highways' performance on 14 February 2024 to determine if it:

● was and is compliant with the RIS (section 3(6) of the Act); and/or

● has contravened or is in contravention of its licence (section 6(3) of the Act).

2.10   In particular, in our investigation initiation letter we indicated that we would consider compliance with the following licence conditions:

● 4.2 (exercising functions and complying with legal duties);

● 5.6 (improvement, enhancement and long-term development);

● 5.10 (asset management);

● 5.23 (environment); and

● 7.1 (duty to provide data or information).

2.11   When we launched the investigation, there were only 13 months remaining in RP2. We wanted to be assured that National Highways had identified, and was taking, every action that could reasonably be expected of it to achieve the RIS set by government. We took the view that investigating now would provide time for corrective action to be taken before the end of RP2, should it be necessary

2.12   This work was intended in part to help National Highways draw a clear line of sight between its activities and outcomes, and to learn and embed lessons to deliver its performance and outputs for RP2 and those being developed for the third road period (RP3, April 2025-March 2030).

2.13   The investigation should be seen in the context of National Highways currently at risk or forecasting to be off track to deliver five of its 12 KPIs by the end of RP2 (safety, average delay, corporate carbon, road user satisfaction, and roadworks information timeliness and accuracy). DfT has agreed (pending ministerial approval) to reduce the company's end of road period targets for road user satisfaction and roadworks information timeliness and accuracy to account for challenges it foresees that the company will need to manage in the final year of RP2. On enhancements, at time of writing the company has missed eleven of its 34 commitments for RP2.

2.14   We also said when we launched the investigation that we expected that learnings from this work would help to inform the appropriateness of National Highways' performance commitments for RP3 and support in the setting of the company's targets to be challenging and deliverable for the next five-year road period. These are matters that we consider specifically in our review of National Highways' emerging plans for RP3 and interim advice to government.

Approach to the investigation

2.15   We conducted our investigation between February and April 2024, in line with our published holding to account policy.

2.16   In support of the statutory reasons for our investigation (paragraph 2.9) we had three aims. To:

● identify the appropriateness of the approach taken by National Highways to set its annual delivery plans and activities and how they align to the commitments that the company has agreed with government;

● determine how well National Highways understands how its day-to-day delivery helps it to achieve performance outcomes and what continuous checks and balances take place throughout the year to allow for course correction; and

● understand how lessons learned and/or deviations from original plans are fed into future planning processes.

2.17   We took a proportionate approach by looking at a targeted sample of areas of interest that reflected our concerns, grouped under three themes. We chose the sample to reflect areas where we had live performance or delivery concerns, and that contained elements representative of issues we had seen elsewhere. This was to give each area of interest the widest relevance possible. We discussed the selection of the areas of interest with National Highways before finalising our choice.

2.18   Table 2.1 shows the themes and areas of interest:

Table 2.1   Investigation themes and targeted sample of areas of interest

Theme	Area of interest
Delivery of the capital portfolio	Designated funds Missed enhancements commitments
Application of asset management strategy and policy	Asset management strategy Renewals
Delivery of the performance specification	Pavement condition KPI Average delay KPI

2.19   Across these areas of interest, we assessed how National Highways implements a 'plan, do, check, act' approach, based on the Deming Cycle and the principle of ISO9001: Quality Management System. Figure 2.1 shows this as a planning and delivery cycle. This approach was adopted to help us understand how the company:

●   identifies a need;

●   develops a plan;

●   implements the plan;

●   learns lessons and updates its approach; and

●   builds in points to that process for check and challenge and opportunities to course correct.

Figure 2.1   Planning and delivery cycle
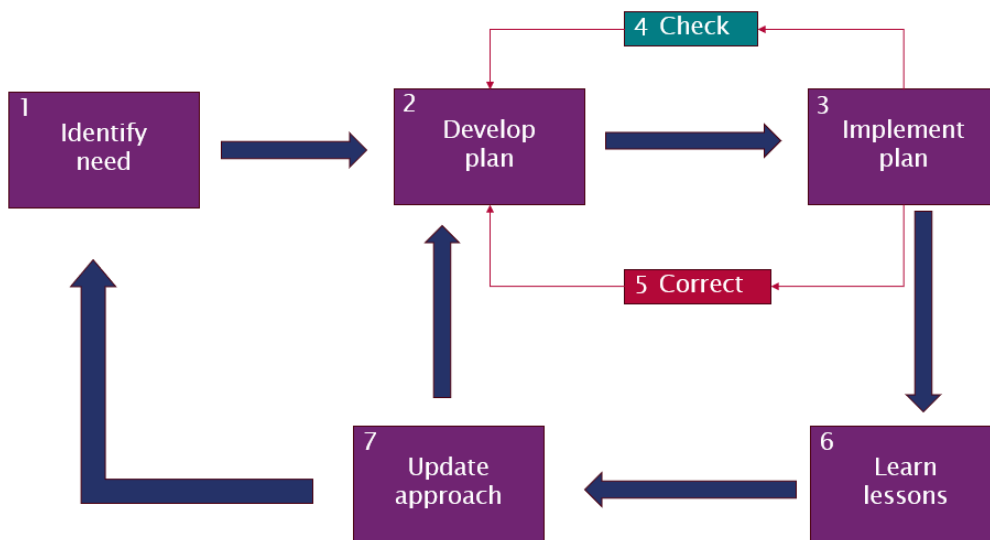
2.20   We asked National Highways to demonstrate to us, using existing documentation and evidence:

- an appropriate approach for each area of interest described in table 2.1;

- a clear line of sight from activities to relevant outcomes; and

- that it assesses those outcomes to enable it to take corrective actions.

2.21   We evaluated National Highways in each area of interest against the relevant element(s) of the cycle. Figure 2.2 describes what the evaluation means.

Figure 2.2   Evaluation criteria

Key	Description
0	Not evaluated
1	Little evidence of an effective approach, or evidence of an ineffective approach with major limitations or weaknesses.
2	Partial evidence of an effective approach, or evidence of an approach with significant limitations or weaknesses.
3	Strong evidence of an effective approach that has elements of good practice, with some limitations or weaknesses.

4	Strong evidence of an effective approach with significant elements of good (or best) practice, and few limitations or weaknesses.

Delivering the investigation

2.22   Our approach was intended to provide a framework within which we could assess National Highways' internal processes, capabilities and culture insofar as they:

●   impact the company's ability to deliver the RIS and its broader statutory commitments under the licence; and

●   demonstrate the evidence base upon which the company takes decisions.

2.23   The investigation required the provision of information from and interviews with National Highways. We thank the company for its cooperation in the provision of this information and engaging with the investigation.

2.24   We did not actively seek evidence from other stakeholders. Some did contact us, and we considered that the information they provided, while useful to support our business-as-usual monitoring, was not directly applicable to this investigation. We have therefore drawn our conclusions based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in seven interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

3.   Designated funds

ORR score

3.1   Table 3.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 3.1   Scoring against the planning and delivery cycle for designated funds

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Designated funds	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence

Interview and evidence assessment

3.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

3.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

3.4   The interview notes below refer to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify need

Interview note

3.5   National Highways (NH) provided background on the approach to Designated Funds (DF). In the first road period (RP1) there was an annual approach, whereas in the second road period (RP2) there has been a larger fund, and the themes have changed substantially – with each directorate receiving its own 5-year

indicative allocation. Before RP2, a Fund Plan was established and published, which sets out the themes of projects NH expect to be progressed through DF.

3.6   Directorates then identified their own need for funding and developed their proposals, before securing approval from the DF Investment Decision Committee (DF IDC).

3.7   In the third road investment strategy (RIS3) there is an aim to move towards a more centralised delivery approach using 'strategic mind'. This approach is about bringing the accountable person to the heart of the decision making. More information is available in the draft strategic business plan (dSBP).

3.8   ORR asked whether the DF team had a way of measuring successes of DF. NH advised that DF has a monitoring and evaluation plan underway using, and this will work through to the end of 2025.

ORR assessment

3.9   There is a fund plan (published) at the start of the road period that identifies the themes and the types of projects/initiatives that NH is looking to fund through Designated Funds. The fund plan also comments on how the themes support NH's corporate commitments and corporate performance indicators. At the start of RP2, the central team allocated budgets to each directorate

3.10   Beyond these initial allocations, the actual identification of need is undertaken within the business rather than by the designated funds team. As identification of need is taken within the business the risk is of a varied approach and there being little to prove or disprove that this is being done effectively in all areas of the business. There was some evidence of processes in place for how the carbon team would identify need, but due to the large number of bespoke schemes and focus of this investigation we have not seen evidence if this is or is not replicated across the business, and due to the way in which delivery is delegated to individual teams, the DF team do not take an active role in determining that need.

3.11   There was positive discussion about the new approach for DF in the third road period (RP3) around having a more centralised delivery approach called 'strategic mind' which should help to have a more prioritised and pre-determined programme to work from. Information on this was initially provided during a presentation on designated funds as part of our review of NH's emerging plans for RP3.

Evidence considered

●   Discussion at interview

- NHCI 21 Designated Funds plans 2020-2025

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 33 Efficiency Review RFI 051 - RIS3 National Highways Draft SBP ORR Query

2: Develop plan

Interview note

3.12   NH explained that the teams within the business are responsible for developing the plans for the projects that are funded by DF. DF's role (through IDC) is to ensure that the plan of work is the right way to spend the money.

3.13   NH explained how the plan for the light-emitting diode (LED) upgrade programme for streetlighting was developed as a significant contributor to the corporate carbon key performance indicator (KPI) – where much of the funding comes from DF. The business made a submission to the central DF team. The DF IDC granted approval across stage gates for a full year, and the business would need to go back for further approvals each year or if there were significant changes in-year. NH agreed to share a copy of the LED business case and IDC submission, along with any minutes of its approval.

3.14   ORR also asked NH to provide another (non-LED) example.

3.15   ORR asked how this would differ in RIS3 with the 'strategic mind' approach. NH explained that the intention was to aim to bring together larger programmes of work rather than small individual projects and move from using the 'project summary form' for submissions to a full business case approach.

3.16   ORR asked whether IDC decisions were made purely on a value for money basis, or if consideration would be given to schemes that help to deliver KPIs, even if they do not have a positive business case. NH explained that generally benefit-cost ratios (BCRs) would be at least 1, but if not, then this could be discussed at IDC on a case-by-case basis.

ORR assessment

3.17   There is a robust DF IDC process to approve any forward plan of work utilising designated funds funding. However, the actual translation of need into a forward plan is undertaken within the business rather than by the DF team. As this is taken place within the business there is a risk of varied approaches between

teams/directorates, however this is somewhat mitigated by the fact that DF IDC should assess each submission against its own criteria for approval. Examples were provided of submissions to IDC which looked comprehensive.

3.18   The IDC process appears to be more focused on the funding needed from DF budgets rather than interrogating whether any bids meet the business objectives. The DF team would not consider the impact of the investment on performance (e.g. NH's ability to achieve KPI targets). Decisions about trade-offs between BCRs and impacts on KPI targets would take place within delivery team and, if appropriate, be reflected in submissions to the DF team. This suggests a possible limitation in NH's approach.

3.19   There was positive discussion about the new approach for DF in RP3 around having a more centralised delivery approach called 'strategic mind' that should help in developing an effective plan. Information on this was initially provided during a presentation on DF as part of our review of NH's emerging plans for RP3.

3.20   This new 'strategic mind' approach appears reasonable and would help improve identified weaknesses in the DF approach in developing and implementing a plan. However, we were unable to undertake a detailed assessment of the new approach and its likely success for the purposes of the investigation, given the limited information available at present and that our focus is on assessing the processes currently in place. NH's approach to delivery through DF in RP3 is considered in more detail as part of our review of its emerging plans for the next road period.

Evidence considered

- Discussion at interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 293 DFIDC 230303 Meeting Summary - Extract for LED Upgrade Programme.docx

- NHCI 294 Guildford to Godalming Project Summary Form.docx

- NHCI 295 LED IDC Investment Submission.docx

- NHCI 296 LED Lighting Project Summary Form.docx

- NHCI 297 LED Upgrade Programme FBC v1.0.pdf

- NHCI 31 Designated Funds Investment Decision Committee (IDC) Terms of Reference

- NHCI 32 Guildford to Godalming Greenway - IDC minutes (Feb 24).pdf

- NHCI 299 Project Summary Form Template.docx

3: Implement plan

Interview note

3.21   NH confirmed that getting approval at DF IDC gives the business authority to deliver the plan of work. Those plans will have been co-designed with relevant members of the business. For example, the LED programme is nationally led, but regionally delivered. Before each year, the national programme team meets with each region to agree the regional delivery expectation/budget allocation and then formally monthly thereafter to monitor against that. There are also ad hoc discussions around the programme and any risks to delivery throughout the year.

3.22   NH noted that the arrangements can differ between projects and there is not a one size fits all approach – all schemes will go through DF IDC and their own directorate and regional governance. Each directorate has its own programme management office (PMO) that has ownership for the delivery of schemes within the business and that reports back to the central DF team. But there is a desire to move towards more national-led delivery in the future.

ORR assessment

3.23   There are two ways to consider 'implementing the plan' – how the business implements individual schemes, and how NH centrally implements the DF portfolio.

3.24   *Implementing individual schemes*: implementation of agreed initiatives is delivered by the wider business, and there is no evidence of a common approach. This does not in itself mean that there are limitations in the approach, but with c.1,300 schemes being implemented across the business (NH provided a breakdown of approved schemes as at Quarter 3 2023-24) and there appears to be no central guidance, it is reasonable to expect differences within approach and implementation.

3.25   The DF team's involvement is limited to financial monitoring, with the delivery teams going back to the DF team where there was a need to reprofile spend, for example. This means that there is little to no central oversight of how DF plans are implemented and realise benefits.

3.26   We reviewed the DF handbook. This was a comprehensive document that provided information to support individuals undertaking a DF project.

3.27   *Implementing the DF portfolio*: DF IDC controls approval of schemes into the portfolio. During the interview, NH discussed the decision criteria in relation to costs and benefits that usually a scheme should have a BCR greater than 1 and is not already funded in the overall settlement. However, this criteria is considered a guideline and NH may approve schemes with a BCR of less than 1 if the scheme is identified as the best way to meet a target. As part of the further evidence provided, we reviewed a copy of the terms of reference to IDC that guided the committee to consider the RIS, its licence and company strategies. This is positive.

Evidence considered

- Discussion in interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 31 Designated Funds Investment Decision Committee (IDC) Terms of Reference

- NHCI 292 DF_Handbook_(2.00).pdf

- NHCI 289 DF Approvals Breakdown (P9 202324).pptx

4: Check

Interview note

3.28   ORR asked whether the central DF team would check whether a project was on track to deliver the expected outcomes in terms of KPIs. NH explained that this is primarily the responsibility of the metric/business owner to manage.

3.29   At portfolio level, the central DF team creates monthly performance reports that show how much expenditure has been approved, and spent, across all directorates – so the focus is financial supported by investment plan 3 (IP3) activity which tracks delivery to time and scope. Also there are monthly meetings with the PMOs in each directorate, and the leaders of high value schemes. ORR asked if NH could share examples of the monthly performance reports, and any inputs/outputs from the meetings with PMOs and projects.

3.30   With the strategic mind approach for RIS3, this may bring in more metrics that are wider than just financial for ongoing monitoring.

3.31   From a carbon and LED perspective, NH explained how the national programmes team meets monthly with the regional teams and uses this as an opportunity to drive scrutiny. Regional LED teams prepare reports each month which feed up to the national LED programme team which in turn feeds up to the Carbon Team through the monthly LED Programme Board meetings. ORR asked if NH could share examples of the LED regional reports and how these feed up to the different governance committees.

ORR assessment

3.32   From the interview, we understand that the DF team's main checking process is meetings with regional PMOs within individual funds, or if devolved teams return to DF for additional funding requests. We reviewed the DF performance pack from Q3 2023-24 which was a comprehensive monitoring spreadsheet tracking actual spend, forecast spend, budget approvals for the current year and also looking forward to future years forecast. The limitation to this approach is the fact that even though it is clear and detailed it was mainly financially focused. There did not appear to be established central checks to determine if the work is meeting the desired outcomes/targets as this would be considered within the team responsible for delivering the project. The financial focus limits the central designated funds team effectiveness to be a 'guiding mind' for the programme, identify patterns, learn lessons and disseminate accordingly to realise the benefits for which the funds were intended.

3.33   From the example of LEDs it appears that further checks are being taken out within the relevant business areas for delivery and performance, with some reporting (e.g. number of LEDs delivered), as evidenced by the LED performance monitoring documents provided and reviewed. The Carbon Team would expect to go back to the DF team if progress was off-track (e.g. further funds required) but this approach is on a case-by-case basis and there is no documented process for when the business should come back to the DF team to report progress against targets/outcomes.

3.34   We note that the new proposed 'strategic mind' approach is expected to allow the team to take a holistic look across all the schemes to drive the right schemes to be delivered at the right time to bring the most value to customers. The 'strategic mind' function is intended to play a lead role in setting standard for reporting and benefits and evaluation models.

Evidence considered

- Discussion at interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 115 SES DF Feb 24 (Jan P10 reporting)

- NHCI 116 DF Performance Pack 2023-24 P9

- NHCI 35 LED National Reporting – January

- NHCI 36 National LED Upgrade Regional Copies of Monthly Reports Jan 24.zip

5: Correct

Interview note

3.35   ORR asked what corrective actions were identified during the delivery and how was planning adjusted accordingly. NH explained that the central DF team primarily checks and challenges with the PMOs, interrogating their forecasts to make sure they are realistic. If a project is unable to use all available funding, then they have to follow a change control process – allowing the DF team make money available elsewhere. ORR asked if NH could provide an example of the DF change control process.

3.36   ORR asked how corrective actions are identified and carried out in the context of the LED programme specifically. NH described how it had taken corrective actions in response to issues with asset data, resource availability, and rules around how DF can be used (i.e. DF cannot be used for renewals). The Carbon Team would inform the central DF team where the funding requirement changes.

3.37   NH also noted that it is not purely reactive and looks to make proactive changes as well.

ORR assessment

3.38   From the discussion at interview and evidence provided, we understand that there is a change control process in place for managing financial changes and performance. If teams are not on track to spend funds, then these will be reallocated to the business. NH provided an example of a change request and the blank change request template for review. The request form is not explicitly just set up for funding changes and does include sections on outputs and impact on KPI, however our understanding from the interview was that the focus of this process was on financial changes.

3.39   In the case of carbon, using it as an illustrative example of a designated funds scheme, we understand that any changes to the delivery of the LED programme (e.g. changes in volumes) would be managed within the programme itself. If corrective action is required there would not normally be a requirement to report/discuss with the DF team (unless there were financial implications) and would be addressed in the delivery parts of the business. Based on the interview we understand that these processes are not formally documented, and vary from team to team across the business

3.40   We asked NH if it could break down the change requests submitted in the last year, NH provided the total number, but we were told the recording does not allow a breakdown by cause of change. As such we cannot make a conclusion about the extent to which the change requests are financially focused. NH also confirmed that they do not record rejected applications from DF IDC (other than in IDC minutes) which could limit the learning they can take from their processes.

Evidence considered

- Discussion at interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 198 Designated Funds & Corporate Carbon - Further Post Interview Questions.docx

- NHCI 30 CR - Grid Key Change of Spending Profile

- NHCI 290 DF Change Request Form Version 3.00.docx

6: Learn lessons

Interview note

3.41   NH carries out lessons learnt with DF, working with PMOs and key project managers to understand what has worked well and how DF processes and governances can be improved. Lessons learnt sessions are normally held quarterly (although have been more frequent in the last 6 months). At delivery level, directorates have their own lessons learn processes. An example was noted of a webinar around the use of Local Authority grants – ORR asked if NH could provide evidence about this.

3.42   In preparation for RIS3, NH is considering how it will learn lessons from the current road period.

ORR assessment

3.43   During the interview, NH explained how the team has quarterly lessons learnt reviews with the PMOs across the business to share learnings. It also noted how it has learnt that using grants to fund delivery has been a successful approach. A slide outlining details of lessons learnt was provided and provided additional evidence about a specific example of lessons learnt related to grant funding.

3.44   We have seen some evidence that lessons have been learnt from RIS1 – e.g. providing directorate allocations and moving away from the annualised approach to approvals

3.45   NH appears to be continuing to learn from the weaknesses in its approach as it looks to implement the new 'strategic mind' approach as discussed in the interview and evidence provided. However, it is not clear how successful this approach will be and how effectively NH has learnt lessons as this approach is not yet implemented.

3.46   Through the interview process and evidence submission we also learnt that NH did not hold change request data in a way that it could be broken down by type/analysed. NH also confirmed that it does not record rejected applications from DF IDC (other than in IDC minutes). Both of these examples limit the learning NH can take from its processes.

Evidence considered

- Discussion at interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 198 Designated Funds & Corporate Carbon - Further Post Interview Questions.docx

- NHCI 291 DF Lesson learned slide.pptx

- NHCI 199 MP Designated Funds Grant Webinar V3.0.pptx

7: Update approach

Interview note

3.47   NH noted that where the DF team can lead, they can make changes, but it is difficult to set up new ways of working when this needs to integrate into how the

business operates. The new RIS3 approach will be an example of a larger change – for instance moving to full business cases.

ORR assessment

3.48   The DF team explained during the interview that it is able to update its approach in areas where it is in control but finds it hard to implement wider business changes to the approach. Sometimes it has to wait for wider business changes to provide opportunities – for instance RIS3 will see changes in how DF projects are approved. This will involve moving away from the current summary forms that are used, to a more detailed business case. This new approach will result in DF having a more extensive oversight of the end-to-end process. However, this raises questions about the ability of DF to make significant updates to approach when it is most appropriate.

3.49   We know from our conversations as part of business as usual (and provided again through the investigation) that NH has had success in updating the approach in utilising the new Biodiversity Target Action Plan and Noise Target Action Plan groups. This is positive. These groups include representation from the technical environment teams, DF and delivery directorates. They have had success utilising technical expertise to identify priority schemes for DF to deliver to improve environmental performance.

3.50   However, this happened in part as a result of ORR scrutinising and pushing National Highways to have a more robust plan to achieve its biodiversity KPI. The company was not able to adequately explain why it took so long to understand the need for more joined up delivery to ensure that spend is delivering benefits, particularly to KPIs in RP2. This updated approach has been applied in limited areas and could benefit from wider consideration across the portfolio.

3.51   NH provided supporting evidence to explain its overarching monitoring and evaluation plans in designated funds, which is a positive step in the DF team evaluating its approach to inform updates to approach. There are a number of recommendations for monitoring and evaluation that NH should implement as part of this. As this is a recent commission it is too early to effectively evaluate how NH is responding to the recommendations and the challenges of monitoring and evaluation.

Evidence considered

●   Discussion at interview

- NHCI 298 ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx

- NHCI 198 Designated Funds & Corporate Carbon - Further Post Interview Questions.docx

- NHCI 199 MP Designated Funds Grant Webinar V3.0.pptx

- NHCI 200 DF Overarching MEP v5 - Complete.pptx

- NHCI 201 Q3 Biodiversity and Noise Update.pptx

Relevant evidence

3.52   Annex A contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

3.53   National Highways' monitoring of the impact of its designated funds activities on core deliverables such as KPIs is devolved outside the central designated funds team. There is evidence that performance is being appropriately assessed for some schemes, notably how the LED programme contributes to carbon reduction, but it is difficult for the company to evidence that this is happening across all areas due to absence of central oversight. Therefore, it is unclear how it is ensuring that designated funds are prioritised to meet the needs they were intended for and generate the anticipated benefits.

3.54   National Highways demonstrated that it has robust processes in place to manage the financial aspects of designated funds delivery. However, there is currently no central function to oversee the effectiveness of the overall programme in delivering key outcomes and benefits, including KPIs. This omission means that opportunities are missed to learn lessons and share best practice within the business. The company told us that it has plans to change this approach in RP3 and better join up its funding and delivery teams. The company was not able to adequately explain why it took so long to evaluate the funds' performance or to understand the need for more joined up delivery to ensure that spend is delivering benefits, particularly to KPIs in RP2.

3.55   Only financial information is collated centrally. The central designated funds function is mostly financial and holds little data or information beyond this, limiting its effectiveness to be a 'guiding mind' for the programme, identify patterns, learn

lessons and disseminate accordingly to realise the benefits for which the funds were intended.

3.56   National Highways is forecasting to miss its RIS2 corporate carbon KPI. The company has told us that the amount of work required to achieve the KPI target in the final year of this road period would be detrimental to road users and would not be an efficient use of public money, but it has been unable to provide any analysis or evidence to support this decision.

4. Missed enhancements commitments

ORR score

4.1   Table 4.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 4.1   Scoring against the planning and delivery cycle for missed enhancement commitments

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Missed enhancements commitments	Elements of strong evidence	Partial evidence	Elements of strong evidence	Elements of strong evidence	Elements of strong evidence	Partial evidence	Partial evidence

Interview and evidence assessment

4.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

4.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

4.4   The interview notes below refers to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify need

Interview note

4.5   National Highways (NH) noted that it is important that its current performance is considered in the context of wider delivery – that many schemes have met their commitments, that some missed commitments have been by less than six months, and that in some cases external factors have been at play.

4.6   NH explained that, as set out in the evidence pack, it has an extensive performance monitoring regime in place. On a monthly basis, performance monitoring takes place at every level. From scheme level performance meetings, through to regional portfolio meetings, culminating in national level meetings that feed the Capital Portfolio Management (CPM) reports that ORR sees quarterly. This upward reporting allows NH to see issues arising early and identify common themes and systematic issues. NH recognised it is unlikely ORR has full sight of the wide range of meetings in this area that help feed into the CPM report provided quarterly. ORR requested evidence that outlines this reporting structure which was provided by the company.

4.7   Additionally, NH have an established process to learn lessons from previous projects. This is widely socialised across the business. NH also recently commissioned Jacobs consultancy to provide an independent report on issues and challenges across the portfolio (provided as part of the evidence pack).

4.8   NH noted that the portfolio is based on a Most Likely (Pmode) level of delivery confidence (i.e. the company's analysis suggests there is a 50% chance of delivering the portfolio for the given cost before applying Central Risk Reserve), so the programme inevitably has a level of risk and is a challenging starting point for delivery, including commitment dates.

4.9   NH stated that, through its robust monthly reporting regime, it learnt lessons and identified change projects to attempt to fix issues and improve future performance.

ORR assessment

4.10   National Highways has a clear understanding of the 'need' in terms of the enhancements commitments that are in the RIS/delivery plan. Its reporting and monitoring observed as part of the interview is geared towards meeting those commitments. For NH, the 'need' is to deliver the overall enhancements programme, rather than focusing on missed commitments specifically. It is looking at a variety of contributory factors to performance across the portfolio and recognising things that they can improve upon. However, there could be benefits

to having additional focus on missed commitments to ensure issues leading to the delays are not systemic or replicated elsewhere.

4.11　NH provided evidence of the extensive performance monitoring regime in the major projects directorate e.g. Programme Committee agendas and reports. Reporting into these meetings is usually a 50–80-page report that explores aspects across the major projects directorate's business. These meetings happen monthly and are rolled up into the Major Projects (MP) level performance review meetings that we also saw copies of. As part of these meetings NH is examining a wide range of data about performance on schemes, and as part of that it picks up schedule challenges. ORR was previously unaware of the scale of this performance monitoring regime (acknowledged by the company in the interview). The upward nature of performance reporting at every level allows for horizon scanning across schemes and areas to pick up common themes and systematic issues.

4.12　We were also provided with a copy of the recent Jacobs consultancy report that provided an independent review of the issues and challenges facing enhancements.

Evidence

- Discussion at interview

- NHCI 114 ORR Investigation -Missed Commitments – NH Response

- NHCI 117 01- RIS2 Overview

- NHCI 118 02-RIP South - Programme Committee Agenda - January '24 - v1.0
  NHCI 119 02-Performance - RIP North Programme Committee March 24 – Agenda

- NHCI 127 08-Jacobs Study- Overview – 20240108 Tier 1 consultancy review

- NHCI 130 08-Jacobs Study – National Highways Portfolio Cost Study – Final Report – Updated

- NHCI 131 03 - Performance - Major Projects Performance Review - MPPR Feb 24 - Agenda.pptx

- NHCI 132 SMP Programme Committee February 24 - Agenda.pptx

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 251 MEC01 - Reporting Levels Summary.pptx

- NHCI 256 MEC03 - Performance - RIP South - Programme Committee Performance Report - January '24 - v1.0.pdf

- NHCI 257 MEC04 - MPPR Mar 24.pdf

2: Develop plan

Interview note

4.13   NH explained that it has a 'management plan' in place for major projects that sets out the planned improvements and actions for the year – developed both top-down and bottom-up based on the experience of the whole enhancements portfolio (not just the missed commitments). There was a management plan in place for 2023-24 and the plan for 2024-25 was being finalised at the time of the interview.

4.14   ORR requested to see copies of the management plan from the previous year, which was provided by the company.

4.15   There is also a separate 'change plan' that sets out change activities. This includes 'project charters' (for change themes rather than a specific enhancement scheme) for each issue. To deliver these, people with experience and relevant knowledge are drafted in to support in that work. With any change there is pre-engagement, followed by teach ins, and then follow up. Within this process NH 'lift and drop' things that have worked well in previous schemes to apply learning to wider projects.

4.16   ORR requested to see an example of a change initiative that has been worked up through task and finish, through to project charter, approval, implementation, and results (i.e. an end-to-end example).

ORR assessment

4.17   National Highways explained in the interview that where there are issues/themes identified as part of 'need' then change programmes are commissioned on the themes. The change team makes project charters for each of these issues, where needed people with experience and relevant knowledge are drafted in to support in that work. The major projects leadership team signs off these initiatives.

4.18   Within the change initiatives, there are rollout actions on how these actions will be delivered. This generally appears to be a sensible approach in terms of having a

key person/team responsible for developing the plan, liaising with individuals with relevant experience and ensuring the plans are approved by major projects leadership.

4.19   We requested a copy of National Highways' 'Change Plan' that sets out the plan of change activities that has been developed, and the company provided a summary slide, with an executive summary of the plan. This included limited information of the contents of the change plan.

4.20   We learnt in the interview that a management plan was is in place for major projects, in response to a follow up query (MEC6) we understood that this was developed for the first time in 2023-24. This was recognised as a gap by the Executive Director and the change was implemented to improve how NH communicates targets/required actions to its people. At the time of the investigation, the plan for 2024-25 was still being finalised and so would not be ready for the start of the reporting year. The company told us that the plan set out the planned improvements and actions for the year – developed both top-down and bottom-up based on its experience of the whole enhancements portfolio (not just missed commitments).

4.21   On review, the example plan provided was a list showing what NH had to achieve in the year, but it was unclear as to how it would achieve the objective for which it was intended. Neither was there any evidence of the plan being reviewed and updated through the year. It is a good example of where the company has identified a gap and improved its approach to try and bring together all the plans for the year. However, the content of the plan was limited.

Evidence

- Discussion at interview

- NHCI 114 ORR Investigation -Missed Commitments – NH Response

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 258 MEC06 - Major Projects Management Plan FY2023-24.xlsx

- NHCI 277 MEC18 - MP Change Plan Summary

3: Implement plan

Interview note

4.22   ORR asked how NH ensured that the messages and actions set out in the plans are rolled out into the business and how it engages with the front-line teams to implement them.

4.23   NH explained that this is one of the roles of the task and finish groups. Additionally, weekly webinars are held on Friday mornings across the business (c.300-400 colleagues attending) with 'teach ins' and Q&A sessions held to roll out changes.

4.24   NH noted a recent example on productivity, supplied as part of the evidence pack. In some cases where additional support is required, the change team will visit individual project teams on site to do 'handholding'.

4.25   For formal changes, NH will issue a Major Project Instruction to all teams, or it can update the Project Control Framework (PCF) to ensure changes are implemented. Schemes would need to demonstrate compliance to progress to the next Stage Gate.

4.26   NH noted a recent initiative called 'Innovation Reapplied' which had been rolled out and delivered c.30% improvements in productivity.

4.27   ORR requested supporting evidence of the 'Innovation Reapplied' example to show how changes have been implemented within MP and what benefits are now being realised through this change.

ORR assessment

4.28   National Highways explained that there are a number of different approaches to implementing and notifying the business about how it delivers enhancements. For example, but not limited to:

- task and finish groups;
- webinars;
- major project instructions;
- changes to the project control framework;
- in person visits to local MP teams; and
- weekly webinars with MP.

4.29   Evidence was provided to support how these different tools were implemented, and each individual element appears effective though it is difficult to see how

these all link up to an overall strategy of implementation in managing enhancements performance.

4.30   In the interview a specific example of the 'Innovation Reapplied' initiative was discussed. NH provided documentation to support the initiation, communication, implementation and results of this example initiative. This was a good example of NH successfully implementing a plan.

Evidence

- Discussion at interview

- NHCI 114 ORR Investigation - Missed Commitments – NH Response

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 259 MEC07 & MEC8 - RIP Webinar v2 - 13.03.24 - Update.pptx

- NHCI 260 MEC07 & MEC8 - 2023-07-26 MP IDC Paper (XX) Innovation Reapplied.docx

- NHCI 261 MEC07 & MEC8 - IR Efficiencies profile - March 2024.pptx

- NHCI 262 MEC09 - Programme Webinar - 2024 Schedule.docx

- NHCI 263 MEC10 - MPI_92_042021_Collaborative_Planning_Minimum_Standards.pdf

- NHCI 274 MEC17 - Project Control Framework - The Handbook Version 5.0

- NHCI 275 MEC17 - PCF_Newsletter_No_61_-_August_2019_

- NHCI 276 MEC17 - PCF Newsletter 85 - August 2022 version 2

- NHCI 278 MEC19 - DAP Principles and Time impacts

4: Check

Interview note

4.31   NH explained that monthly project performance review meetings are held at every level of the organisation (project, regional, group) – ultimately up to Major Project Performance Review. Reporting into these meetings can be a 50–80-page report that explores a wide range of metrics – for instance safety inspections, timeliness of correspondence, cost metrics, earned value metrics (EVM), risk.

4.32   NH use those meetings to see how changes are affecting the projects. ORR asked to see an example of these reports to understand the process followed and the type of issues covered (ORR said it will not be focusing on individual scheme details).

4.33   NH stated that this same reporting framework applied to projects regardless of their stage, although different metrics may apply at different stages.

4.34   ORR asked about the monthly Change Authority meetings. NH explained the meeting is designed to be a 'one stop shop' to review change initiatives along with futures changes that could be implemented. Individuals write a short 2–3-page paper proposing a change to projects – NH then decides whether to implement these based on the expected benefits and capacity to implement change.

ORR assessment

4.35   There appears to be a robust reporting structure to check delivery of major projects. Monthly performance meetings are held at every level in the major project structure. Reporting into these meetings can be a 50–80-page report that explores wide variety of issues impacting MP business.

4.36   NH provided example copies of agendas and reports for these meetings. The reports included good content, had lots of detail at scheme level on schedule performance supported by commentary, with a focus on commitments in the current reporting year. This reporting structure culminates with the CPM reporting that ORR sees on a quarterly basis. Monthly meetings are held at project level and regional level group level – as per the meeting structure discussed in 'identify need' above.

4.37   As discussed in 'identify need', on the evidence provided the focus of checking delivery appears to be on the portfolio as a whole and not interrogating the reasons for missed commitments specifically.

4.38   NH explained during the interview that it has monthly change authority meetings, where it can check on how its change activities are progressing, and where necessary it can correct the approach it is taking. Some areas are more fixed; some are more fluid and are updated through this process.

4.39   NH also explained that it has to manage the impact of change on the projects. It can sometimes be impractical or unhelpful to implement lots of changes at one time, or to implement changes for projects that are not at the appropriate point in the scheme lifecycle. NH staff can also present new opportunities for change through these meetings (by bringing a short paper).

4.40   NH provided further documents that showed an example of a change authority meeting and also the change authority action tracker. This includes a good example of where an approach has been updated, 'corrected' to a new approach.

4.41   NH shared the Major Projects Management Plan for 2023-24. However, the evidence provided did not appear to indicate this had been revisited or checked for progress throughout the year.

Evidence

- Discussion at interview

- NHCI 118 02-RIP South - Programme Committee Agenda - January '24 - v1.0

- NHCI 119 02-Performance - RIP North Programme Committee March 24 – Agenda

- NHCI 131 03 - Performance - Major Projects Performance Review - MPPR Feb 24 - Agenda.pptx

- NHCI 132 SMP Programme Committee February 24 - Agenda.pptx

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 256 MEC03 - Performance - RIP South - Programme Committee Performance Report - January '24 - v1.0.pdf

- NHCI 257 MEC04 - MPPR Mar 24.pdf

- NHCI 264 MEC12 & MEC13 - Major Projects Change Authority (28th February 2024).pptx

- NHCI 265 MEC12 & MEC13 - MPCA Action tracker.xlsx

5: Correct

Interview note

4.42   ORR noted that some of this section had been covered as part of previous discussions within the session.

4.43   NH noted that given most of what MP do is delivered through the supply chain, changes are often implemented through them also. However, this can be challenging – the proportion of NH individuals working on each project can be

small in relation to the supply chain. Using an example of a £300 million project, NH might have up to 12 people working on this compared to the supply chain of 300+.

4.44   NH explained that there are trade-offs with the level of 'float' (the flexibility with which an activity may be rescheduled) incorporated into programmes and it needs to balance these. A challenging Most Likely approach can help to drive VfM and efficiencies into the portfolio but means that across the portfolio some commitments may be missed. NH could build in additional float or work to higher confidence levels to improve its chances of hitting commitment dates. But this means increased programme duration and costs that could then expose NH to accusations of setting soft targets and not being sufficiently challenging of itself. On balance NH believes that the current approach of setting Most Likely cost and schedule targets coupled with CRR and Delivery Plan float provides an appropriate but challenging balance.

4.45   ORR asked about the risk profile for the remainder of the second road period (RP2) and into the third road period (RP3). NH explained that this profile is improving significantly as bigger risks such as legal challenges are resolved. For instance, court appeals to Development Consent Orders (DCOs) have been a key challenge throughout RP2. NH expects that many of these legal challenges are now ending allowing physical work to begin before the end of RP2, and there is only one new scheme for (RIS3) whereas the rest of the portfolio will already be 'in flight'.

ORR assessment

4.46   NH has monthly change authority meetings, where it can check on how the change activities are progressing, and where necessary it can correct the approach it is taking. Some areas are more fixed, some are more fluid and are updated through this process. NH also notes that it has to manage the impact of change on the projects, it is often not practical or helpful to implement lots of changes at one time. NH staff can also present new opportunities for change through these meetings by bringing a short paper.

4.47   NH provided further documents that showed an example of a change authority meeting and also the change authority action tracker. This includes an example of where an approach has been updated, 'corrected' to a new approach.

4.48   During the interview, and also reflected above in 'implement plan', NH noted that where necessary and appropriate it updates the PCF to fully incorporate a change

into the major projects process. NH provided an example of where the PCF was updated ('corrected') to reflect a new approach.

4.49   Evidence was provided to support the different ways in which NH corrects its approach to delivery when needed, and each individual element appears effective. However, it is difficult to see how these all link up to an overall strategy of correcting approach.

Evidence

- Discussion at interview

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 274 MEC17 - Project Control Framework - The Handbook Version 5.0

- NHCI 275 MEC17 - PCF_Newsletter_No_61_-_August_2019_

- NHCI 276 MEC17 - PCF Newsletter 85 - August 2022 version 2

- NHCI 264 MEC12 & MEC13 - Major Projects Change Authority (28th February 2024).pptx

- NHCI 265 MEC12 & MEC13 - MPCA Action tracker.xlsx

6: Learn lessons

Interview note

4.50   ORR thanked NH for providing the 'Learning from lessons, March 2024' document. NH explained that it is setting out proposals to roll out a new process for learning the smaller lessons from projects. The document is aimed at creating a mechanism whereby small lessons can be applied to other projects more effectively to keep the cycle of learning and implementing change going throughout the business. The report includes new templates to engage with project managers and a way to help the central team to analyse data.

4.51   In addition to this process, NH explained that 'big ticket' items such as design management and improving contract management (as evidenced in the initial evidence submission) are identified through the broader performance reporting, governance and lessons learned discussed under question 1.

ORR assessment

4.52   Big ticket items such as 'design management' and 'better contract management' – examples evidenced in the initial evidence submission – are managed through the reporting/meeting process outlined above. This is in response to escalating design costs and delays in the programme design phases that have beset some schemes. These are good initiatives, but they are in their early stages and not yet fully implemented. This is made more difficult because the opportunity to implement these improvements is only available within specific windows of the project lifecycle – in stages 3 or 5.

4.53   The upward nature of performance reporting at every level allows for horizon scanning across schemes and areas to pick up common themes and systematic issues. The recent Jacobs consultancy report (copy provided in the evidence pack) also provided an independent review of the issues and challenges.

4.54   Evidence provided showed that NH is currently strengthening its processes for learning smaller, more tactical lessons. This will require project managers to look at lessons learnt before stage gates and will also require an end-of-stage report on lessons learnt. This replaces the previous approach where there was simply a repository of lessons, but no way/process for ensuring they were applied.

4.55   While it is evident that a number of change initiatives are now being rolled out, we are now in year five of RP2. As such, they may have come too late to affect RIS2 performance, and it is unclear why it has taken so long for NH to identify the issues and implement some of these initiatives.

4.56   A document provided as evidence was the webinar about the new process being rolled out on 1 April 2024. NH believes that this new approach will improve the way that the business engages with lessons learnt and makes the information accessible and available to easily analyse. The newly implemented approach appears to be a good system and an improvement on the process in place previously.

4.57   There is good evidence that NH tested and trialled this approach first within the business before rollout. We will be interested to see how NH implements and embeds this new approach over the next 12 months.

4.58   NH has implemented improvements during RP2 but has identified the need to improve its lessons learnt approach. This was only implemented from 1 April 2024. The company has missed commitments on eleven schemes in this road period so far, driven by a range of factors. It has a statutory duty to deliver what it has

promised and the delay to learning lessons and implementing change indicates that its prior approach was not wholly effective and should have been re-evaluated sooner. The new plan is an example of the company aiming to implement a new plan or innovation – this is welcome – but the change itself does not appear to deliver on the strategic intent as described.

Evidence

- Discussion in interview

- NHCI 114 ORR Investigation -Missed Commitments – NH Response

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 127 08-Jacobs Study- Overview – 20240108 Tier 1 consultancy review

- NHCI 130 08-Jacobs Study – National Highways Portfolio Cost Study – Final Report – Updated

- NHCI 273 ORR Investigation - Missed Enhancement Commitments - Further Post Interview Questions

- NHCI 128 07 - Lessons Learnt - March 2024 webinar to launch new tools.pptx

- NHCI 266 MEC14 - NEAR slide pack.pptx

- NHCI 267 MEC14 - SMP Update Feb 24.pptx

- NHCI 268 MEC14 - Final Q&A for new Learning from Lessons approach.docx

- NHCI 269 MEC15 - Pilot log v final log.pptx

- NHCI 123 Contract Management - MP-C&P - Interface Meeting - Terms of Reference v1.docx

- NHCI 124 10 - Design Management - DEP - MPPR Celebrating Success Presentation File.pptx

- NHCI 125 11- Design Management - 231105 Design Mgt Improvement - Ppal Designers.pptx

- NHCI 126 09 - Design Management - Budget Led Design - 2020.11.24_CIPProgrammeCommittee_Presentation.pptx

7: Update approach

Interview note

4.59   ORR noted that much of this subject had been covered in previous sections earlier in the discussion. ORR was keen to understand why the level of missed commitments has increased from the first road period (RP1) to RP2.

4.60   NH explained that wider factors need to be considered to understand why commitments have not been met. The relationship with the supply chain can be a challenge. NH noted that some other organisations (such as Network Rail and Transport for London) adopt a P70/P80 level of delivery confidence in their approaches to planning.

ORR assessment

4.61   National Highways shared information about how it has updated its approach to project delivery, for instance through the examples noted around Innovation Reapplied. These appear positive.

4.62   In the initial evidence submission NH provided information about the new process being rolled out for lessons learnt on 1 April 2024. This is a good example of NH updating its approach. The implementation of this new approach came from a Lean Review initiated 2021 by Major Projects Delivery Services (MPDS) and as such raises concerns about the timeliness of implementation.

4.63   NH being able to update its approach is linked directly to its ability to effectively learn lessons. Given this, it is not possible to assess how effective this new approach is when it had only just been implemented at the time of the investigation.

Evidence

- Discussion in interview

- NHCI 114 ORR Investigation -Missed Commitments – NH Response

- NHCI 249 ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx

- NHCI 273 ORR Investigation - Missed Enhancement Commitments - Further Post Interview Questions

- NHCI 128 07 - Lessons Learnt - March 2024 webinar to launch new tools.pptx

- NHCI 266 MEC14 - NEAR slide pack.pptx

- NHCI 267 MEC14 - SMP Update Feb 24.pptx

- NHCI 268 MEC14 - Final Q&A for new Learning from Lessons approach.docx

- NHCI 269 MEC15 - Pilot log v final log.pptx

- NHCI 259 MEC07 & MEC8 - RIP Webinar v2 - 13.03.24 - Update.pptx

- NHCI 260 MEC07 & MEC8 - 2023-07-26 MP IDC Paper (XX) Innovation Reapplied.docx

- NHCI 261 MEC07 & MEC8 - IR Efficiencies profile - March 2024.pptx

Relevant evidence

4.64   Annex B contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

4.65   National Highways told us that a management plan was in place for major projects, developed for the first time in 2023-24. At the time of the investigation, the plan for 2024-25 was still being finalised and so would not be ready for the start of the reporting year. The company told us that the plan set out the planned improvements and actions for the year – developed both top-down and bottom-up based on its experience of the whole enhancements portfolio (not just missed commitments). On review, the example plan provided was a list showing what the company had to do in the year, but it was unclear as to how it would achieve the objective for which it was intended. It is a good example of where the company has identified a gap and improved the approach to try and bring together all the plans for the year. However, the contents of the plan were limited.

4.66   In addition, the impression given by National Highways in the interview was that commitments are only missed by a few months and as such is it not a significant issue.

4.67   National Highways has identified the need to improve its lessons learnt approach, but this was only implemented from 1 April 2024. At time of writing the company

had missed commitments on 11 schemes in this road period. It has a statutory duty to deliver what it has promised and the delay to learning lessons and implementing change indicates that its prior approach was not wholly effective and should have been re-evaluated sooner. The new plan is an example of the company aiming to implement a new plan or innovation – this is welcome – but the change itself does not appear to deliver on the strategic intent as described.

4.68   There appears to be a wide range of meetings on delivery commitments that feed into quarterly capital portfolio management (CPM) reporting that provide early sight of risks and potential missed commitments. We were not sighted on these meetings and in some instances, we were not informed of relevant data and information until six months after the fact.

4.69   During the investigation National Highways shared examples of reports and meetings evidencing the positive work that the company is doing around missed commitments. This includes details that supported ongoing conversations and assurance around performance, for example a comprehensive monthly performance report. This information would have been pertinent to addressing concerns that we had raised in December 2023. At interview and in writing afterwards the company was hesitant to share this information with us.

5.   Asset Management (strategy)

ORR score

5.1   Table 5.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 5.1   Scoring against the planning and delivery cycle for asset management (strategy)

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Asset management (Strategy)	Elements of strong evidence	Elements of strong evidence	Partial evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence

Interview and evidence assessment

5.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

5.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

5.4   The interview notes below refers to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify Need

Interview note

5.5   National Highways (NH) stated that it understands the need to implement an asset management policy and procedures that aligns with licence requirements, and the need to improve asset management in the face of increasing challenges such as ageing assets, climate change and fiscal constraints.

5.6   Meeting the above challenges will require NH to become a better asset manager, requiring cultural change.

5.7   NH acknowledged the importance of aligning its asset management approach with International Organisation for Standardisation (ISO) 55000 requirements, including the licence requirement (in condition 5.11) to "adopt a long-term approach to asset management consistent with the ISO 55000 standard".

5.8   NH began by explaining the asset management (AM) journey from the initial maturity assessments carried out by Lloyds Register in 2017 and later by AMCL, one of which was jointly funded by NH and ORR. NH agreed to share the Lloyds and ACML reports.

5.9   To address the gaps identified in the above reports, an Asset Management Development Plan (AMDP) was produced. This evolved into the Asset Management Transformation Plan (AMTP) in 2022.

5.10   When trying to implement the asset management plans, within the wider business there were challenges such as 'staff already do that or know that already' – but this is seen as a positive. The programme has had strong executive level support, including from NH's Chief Executive.

5.11   Ongoing audits, such as by the Woodhouse Partnership as part of achieving ISO 55001, add value for NH as they are not just pass or fail, but flag up areas of concern the company needs to work on. ORR asked for an electronic copy of the Woodhouse report that NH shared in hard copy during the meeting.

5.12   ORR asked how asset management fits into the wider business model and contributes to NH's values. NH's immediate tactical success criteria is getting ISO55001 certification, as this demonstrates capability and maturity. But this is recognised as an output – not an outcome. Ultimately, NH wants to become more sophisticated in how it measures outcomes (e.g. safety, whole life cost). This will help NH understand how the strategy is delivering on the ground.

ORR assessment

5.13   NH recognised the need to align with condition 5.11 of its licence. 'Our licence requires that we adopt a long-term approach to asset management consistent with ISO55001 standards'.

5.14   The company said that it needs to be better at asset management in the spirit of continuous improvement. This is driven by:

- an ageing asset;
- responding to climate change; and
- fiscal constraints.

5.15   Meeting the above challenges will require NH to be a better asset manager. This requires cultural change and is a journey.

5.16   Over the years, NH has undertaken various maturity assessments that identify areas of required improvement. The ISO certification will provide further areas to focus on.

5.17   NH's immediate tactical success criteria is getting ISO55001 certification, as this demonstrates capability and maturity. But this is recognised as an output – not an outcome – and therefore a limitation on identifying the need. Ultimately, NH wants to become more sophisticated in how it measures outcomes (e.g. safety, whole life cost). This will help NH understand how the strategy is delivering on the ground.

5.18   There appeared to be a lack of clarity as to how far the achievement of ISO55001 accreditation, required under condition 5.11 of National Highways' licence, represents compliance with the other asset management conditions, for example, 5.10 (to develop, maintain and implement an asset management policy and strategy)

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

- NHCI 165 AMS1 AMCL - National Highways Asset Management Capability Efficiency Review - Version 1.0.pdf

- NHCI 166 AMS1 Lloyds Register - Analysis of AM system against ISO55001 for Highways England.pdf

- NHCI 3 (&164) AMS2 - 1. 23-595 National Highways ISO 55001 Closure Progress Report (2)

2: Develop plan

Interview note

5.19   NH elaborated on its transition from AMDP to AMTP, highlighting the evolving nature of its strategic plan. AMTP is seen as in improved product, and has stronger senior leadership engagement and buy in.

5.20   The plan was never a fixed document, with new actions identified through ongoing gap analysis. Following on from the gap analysis/maturity assessments NH pulled together a core of experts along with specialist consultancy advice to look at what other sectors do, what Network Rail does (e.g. developing Asset Class Strategies and Handbooks) and using the Institute of Asset Management and developed the artifacts that became the AMTP.

5.21   ORR asked whether costs were considered – NH noted that the actions in the plan are costed, and that they look at savings as well as costs. NH acknowledged that they needed to better understand the quantitative impacts of the programme, as well as qualitative changes. But it is hard to separate out the impact of AMTP, particularly in a financially constrained environment.

5.22   ORR asked about the level of engagement across the business, for example the regions, in terms of the development of the plan. NH noted that all the artifacts of the AMTP were co-authored by Safety, Engineering and Standards (SES), Operations and Major Projects. This gives the work a business-wide mandate, although it is still as a bit of 'an SES thing.' There continues to be strong cross company governance with an Asset Management Steering Group, and AMTP Group and several working groups. NH agreed to share the group's Terms of Reference, minutes, and processes.

5.23   NH also noted that Woodhouse, as part of the ISO55001 work, carried out workshops with the wider business engaging with Operations and Major Projects – at operative level – to develop the products came as part of the asset

management suite. NH agreed to share further details of the Woodhouse workshops.

ORR assessment

5.24   We have seen how NH's plan has developed over time through our BAU work and how the AMDP evolved into the AMTP. This was an improved product reflecting the increased emphasis placed on the NH business for better asset management. The AMTP has much greater senior leadership engagement/buy-in, up to and including the Chief Executive. Further gap analysis was undertaken leading to more tasks added to the AMTP programme. It was developed by teams across NH, including the regions; it has clear, funded actions/outputs and has clear governance arrangements in place.

5.25   NH procured expert assistance and specialist advice to produce the AMTP. Actions evolved from best practice, with an example of the Asset Class Strategies and Asset Class Handbooks taken as best practice from Network Rail.

5.26   All actions were costed and planned, and delivery risk was considered. We have seen evidence of the specific actions to be delivered in Year 3 and Year 4. Many of the actions seek to deliver consistency in the way teams work. Actions are largely quantitative and less qualitative. A limitation of the plan is that it is output driven, but less outcome based. This means there is a weakness in understanding how these plans are being delivered into the regions and the difference they are making.

5.27   The plan was mandated at the highest level within the company. NH has tried to move from being directorate-owned to business-owned with accountable owners allocated accordingly. There is greater buy-in because all elements of the plan have been co-authored by SES, Operations and Major Projects, and Woodhouse engaged with the business as part of developing the plan. This gives the work a business-wide mandate, although the plan is still seen as 'a bit of an SES thing'

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

- NHCI 159 AMS4 - 23-595 NH Preliminary Audit Report 1.1 231116.pdf

- NHCI 160 AMS4 - RE_ ISO55001 audit - Process Walkthroughs.eml

- NHCI 149 AMS4 - Re_ T0452 ISO55k Audit & Certification - Weekly Progress Meeting - 25 August 2023.eml

- NHCI 148 AMS4 - T0452 - Preliminary Audit Delivery Plan v1.0.pdf

- NHCI 150 AMS4 - T0452 Inception Meeting Minutes v1.0.pdf

- NHCI 151 AMS4 - TO452- Proposed Interviewees for 1-2-1s.eml

- NHCI 152 AMS4 - Updated meeting planner.eml

3: Implement plan

Interview note

5.28   NH has project management governance and project initiation documents (PIDs) in place for the AMTP's delivery. There are six charters with deliverables for each year. Each March/April, there is an audited performance review of that year, which is then approved by Asset Management Committee, then confirmed to ORR. ORR asked for NH to share examples of this assurance.

5.29   ORR asked about ownership of the Charters in the AMTP, and whether the levels of engagement were evenly and correctly shared across the relevant areas of the business. NH explained that many of the actions are owned by the business, and they are accountable for delivery. For instance, the Asset Class Handbook is the lowest level document which must be digested by the business – reliant on Operations Central to get this consistency.

5.30   Through the Asset Management Transformation Committee there is engagement across all the relevant parts of the business. NH has protocols in place between Major Projects and Operations, including the use of Asset Class Implementations Plans, and shared a printed copy of the Vehicle Restraint System (VRS) asset example – NH agreed to share an electronic version after the interview.

5.31   NH described some of the activities it is doing to ensure that asset management is embedded deep into the organisation. This includes the training that is now on the internal training system 'Thrive', the new Asset Management Intranet page that was shared as part of the evidence for this case study and the recent Early Talent Conference where the entire day was focused on Asset Management.

5.32   NH also noted that the 2024 CEO Challenge. This is an annual competition for its Early Talent Network. It asked 'Right time, right place, right asset: optimising our investment in an ever-changing world. How can we continuously improve our asset management approach?' NH agreed to share further information on the CEO Challenge with ORR.

5.33   NH provided more background on the risk work that was shared as part of the evidence pack. This has been a step change in the way NH manages asset management risk. ORR asked NH to share any examples of the outputs from this new risk tool.

ORR assessment

5.34   The AMTP consists of six Charters, with deliverables for each year. There are clear actions following the ISO55001 audit. These are being monitored and implemented.

5.35   Many of the actions are owned by business and they are accountable for their implementation. "Proper" resources were allocation to the implementation of the plan. Where necessary, project initiation documents were produced and resource obtained.

5.36   NH described some of the activities it is doing to ensure that asset management is embedded deep into the organisation. This includes the training that is now on the internal training system 'Thrive', the new Asset Management Intranet page that was shared as part of the evidence for this case study and the recent Early Talent Conference where the entire day was focused on Asset Management.

5.37   Progress is scrutinised through the governance forums and Delivery Plan updates. The plan has a clear governance regime. Each March/April, there is an audited performance review of that year. This is approved by NH's Asset Management Committee, then shared with ORR.

5.38   The plan has clear outputs, for example a handbook, but its key limitation is that it is less outcomes based. NH recognises that it "needs to be better at outcomes". Therefore, the plan has been developed with an inherent weakness because the process does not effectively measure how the steps are being implemented and embedded in regions, how benefits are being realised and how these measures are impacting performance. For example, in the case of the asset class handbooks, there is little evidence to demonstrate how these are being used on the ground and the benefits and improvements to the network that are being realised by their implementation.

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

- NHCI 155 AMS6 - ACSImplementation_VRS - Final Version.pptx

- NHCI 144 AMS6 - VRS ACS Implementation Plan Action Tracker.xlsx

4: Check

Interview note

5.39   ORR asked how NH assures itself that the plan is delivering change 'on the ground'.

5.40   NH noted that independent assurance reviews against ISO55001 are undertaken, and NH checks that the outputs of the plan have been delivered.

5.41   Across all asset classes, the Asset Management Group surveys the users of the Asset Class Strategies and Handbooks regularly with a detailed questionnaire to understand the user experience. ORR asked if NH was able to share an example of this survey/poll and the data/evidence it has produced.

5.42   ORR asked how and whether NH checks that the actions are delivering benefits. NH noted that the process had led NH to challenge its own view of risk management, make changes to how it manages risks – as set out in the NHCI 18 - CRR06 slides shared as evidence.

5.43   ORR asked how NH monitors the delivery of activity within the year. NH explained that this was through the governance structures put in place. The Asset Management Transformation Group (made up of Executive and subcommittee members) meets monthly. This can then escalate to Asset Management Committee (made up of Executive and subcommittee members) that then holds NH accountable. ORR asked if NH could provide minutes of these meetings.

ORR assessment

5.44   NH has clear governance arrangements in place to review the plan. The Asset Management Transformation Group meets monthly. An Asset Management Committee (Executive level) meets every six weeks, chaired by the Chief Highways Engineer with senior executive representation from across the business, including the executive directors from Operations and Major Projects. The checking focuses on whether the plan itself has been delivered. However, there are limitations in that the checking does not look at how the plan has actually had an impact into the business.

5.45   The ISO 55001 audit report has also provided a check on progress. Even after accreditation is secured, ongoing surveillance audits will continue.

5.46   Across all asset classes, the Asset Management Group surveys the users of the Asset Class Strategies and Handbooks regularly with a detailed questionnaire to understand the user experience.

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 18 CRR06 A Major Asset Failure on the Network Secondary Controls and Review Approach

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

- NHCI 161 AMS3 - AMSG ToR Updated 2022 .docx

- NHCI 162 AMS3 - AMTC ToR v7.0 Jan 2024 (3).pdf

- NHCI 163 AMS3 - AMTG Agenda 22 February 2024.pdf

- NHCI 157 AMS3 - AMTG deck 22 February 2024 v2.pdf

- NHCI 158 AMS3 - AMTG Minutes 22 February.pdf

- NHCI 153 AMS5 - AMC Agenda 7 December.pdf

- NHCI 154 AMS5 - AMC December slidepack.pdf

- NHCI 156 AMS5 - AMC Minutes 07 December.pdf

- NHCI 143 AMS9 - Asset Class Handbook - Feedback Survey.pdf Sample Survey

5: Correct

Interview note

5.47   ORR asked what corrective actions were identified during delivery and how plans were adjusted accordingly. NH noted that it is evolving and that it wanted to quantify outcomes not just outputs and improve evidence of embedment and engagement. Once ISO 55001 accreditation has been obtained, that will be a good point to take stock and then progress – although NH will need to bid for further resource to do this.

5.48   ORR asked what drove the change from AMDP to AMTP – was this seen as a correction? NH saw this more as a re-branding than a correction. Once it is ISO55001 certified, there will be independent ongoing surveillance audits as part of the ISO process. This will also serve as a checking/correcting process – they are not a pass/fail process but identify areas for improvement.

5.49   ORR asked if NH could evidence these feedback loops. NH noted that the documents have their own update cycles within them – the assurance that this is being done will be provided through the ISO certification itself.

ORR assessment

5.50   NH appears to have processes in place for taking corrective action, although these were not clearly evidenced. Once ISO 55001 is secured there will be ongoing surveillance audits. These audits will be a good point to take corrective action if needed. However, continued compliance with ISO55001 does not necessarily completely align with NH's asset management requirements or evidence that the strategy and policy is being delivered by the operations regions. The documents within the strategy have pre-defined update cycles within them.

5.51   The move from AMDP to AMTP was arguably a form of corrective action. NH sees this more as a 're-branding'.

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

6 and 7: Learn lessons and update approach

These two discussions were combined in the interview and are presented together here.

Interview note

5.52   ORR asked what processes NH has in terms of learning lessons through the AMTP. NH gave examples of the approach taken to some tactical issues on the network and how best these can be addressed under the AMTP and how lessons can be learnt. These are discussed in the asset groups, and standards re-issued based on learnings (e.g. because of climate change, drainage assets need increased capacity). A specific example given was scour on bridges, and slot drains – NH agreed to share these examples.

5.53   At a strategic level, NH learns lessons through the governance process described previously, and is holding a workshop with Operations shortly to discuss the next steps. This is key to getting the framework and culture right. NH acknowledged that there were gaps in data it could have addressed sooner – an example of a lesson learnt.

5.54   ORR asked about the next steps for ISO 55001 accreditation. NH noted that it is targeting Q1 Financial Year 2024-25 for accreditation. Once NH has secured accreditation, that is the next logical step to update its asset management approach.

ORR assessment 6 Learn lessons

5.55   NH provided some good examples of tactical lessons learnt:

- scour on bridges in watercourse: NH need to do more because of climate change resulting in increased frequency of inspections;
- drainage: because of climate change, new drainage now specified with an increased 25% capacity;
- slot drains: identified that they are cheaper for Major Projects (MP) to build, but difficult for Operations to maintain. Change in standards means that if the proposal is to build slot drains, a departure is required; and

- risk escalation: process has been improved, specifically focused on how to manage risk, not just recording risk.

5.56   Data gaps in asset inventory and/or location have been an issue that has been acknowledged for some time but not addressed – suggesting limitations in the approach.

5.57   We have seen examples from NH at tactical level, but not seen how these examples translate back into its wider strategic approach to asset management.

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

- NHCI 144 VRS action plan

- NHCI 28 & 141 AMS10 - Scour - ORR Investigation 07 03 2024.pptx

- NHCI 27 AMS10 - Slot Drains Issue.pptx

ORR assessment 7 Update approach

5.58   We have seen how NH has updated its approach over time – for instance moving from AMDP to AMTP. This also led to increased senior buy in. AMTP was also updated again in 2023. However, there are limitations in that NH has not yet been able to explain and evidence the drivers and rationale for the change, nor whether the expected benefits arising from its implementation are being realised.

5.59   After NH secures its ISO 55001 accreditation, and subsequently on an ongoing basis, it appears that there will be mechanisms in place to allow for a continuous cycle of checking and updating that is currently not present.

Evidence

- NHCI 4 Strategic Asset Management Plan (SAMP)

- NHCI 10 Asset Management Transformation Programme (AMTP)

- NHCI 23 Application of Asset Management policy and approach – Evidence to support ORR investigation

- NHCI 12 National Highways ISO55001 Pre-certification Audit Report – November 2023

Relevant evidence

5.60   Annex C contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

5.61   National Highways lacked evidence to demonstrate how and if its high-level asset management strategy and organisational level plans are being used on the ground and the benefits and business improvements that are being realised by their implementation.

5.62   National Highways has good evidence of how individual actions have been delivered. However, these actions generally stop with the production of an output, such as the asset class handbooks. The company struggles to demonstrate how these outputs are being implemented to deliver the outcomes expected. For example, in the case of the asset class handbooks, there is little evidence to demonstrate how these are being used on the ground and the benefits and improvements to the network that are being realised by their implementation.

5.63   There appeared to be a lack of clarity as to how far the achievement of ISO55001 accreditation, required under condition 5.11 of National Highways' licence, represents compliance with the other asset management conditions, for example, 5.10 (to develop, maintain and implement an asset management policy and strategy). The company told us that gaining ISO55001 accreditation demonstrates that the company is taking a long-term approach to asset management. But it was not clearly elucidated how this supported and complimented what was in the company's asset management strategy and policy, or how ISO55001 accreditation would support its strategy and policy implementation. It is important that work to achieve ISO55001 is not seen by the company as a stand-in for complying with other licence conditions. This could lead to activity on the ground not necessarily being aligned with helping the company to achieve its legal obligations to implement its asset management policy and strategy.

5.64   National Highways acknowledges data deficiency in this area. One of the six charters within its asset management development plan (AMDP) is to improve the

quality of its data. This work is ongoing, but we are unclear how the company will resolve this. Deficient asset data has the potential to limit the company's ability to make consistently evidence-based decisions and assess the benefits its investment generates across all asset types. We have seen evidence that data quality varies between asset classes for renewals and the need for improvement, for example on the drainage asset and on-road technology.

6. Asset Management (renewals)

ORR score

6.1   Table 6.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 6.1   Scoring against the planning and delivery cycle for asset management (renewals)

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Asset management (Renewals)	Elements of strong evidence	Elements of strong evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence

Interview and evidence assessment

6.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

6.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

6.4   The interview notes below refers to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify need

Interview note

6.5   National Highways (NH) explained that the Asset Class Policies are the bedrock of its approach. Asset engineering teams are responsible for collating asset data that comes through from various sources – e.g. feedback from Traffic Officer teams, customer complaints, inspections to collect asset data, staff 'network knowledge', progress with the existing programme, and development of the future programme.

6.6   That information feeds into an Asset Needs Register. In the North West (NW) region, there is an Unconstrained List of Needs (ULON) that includes all assets. NH is currently bedding in prioritisation tools (developed nationally) for all its main assets (except lighting, as this is less mature). The evidence pack contains screenshots of this. These templates are standardised nationally.

6.7   To prioritise within the ULON, asset engineering teams sense check the information that the prioritisation tools suggest, using their expertise and understanding of the assets.

6.8   ORR asked how the engineering teams prioritise between different sources of asset information. NH explained that the pavement prioritisation tool contains a formula that gives an indicative prioritisation score, but this needs to be considered alongside other information. Relevant information sources vary from asset to asset, but safety is always the priority.

6.9   ORR asked for evidence of the process of this prioritisation. NH explained that the Asset Need Prioritisation Tool (ANPT) for pavement showed how the assets that are highest priority are generally scheduled earlier in the programme (illustrated by the downward sloping trend line).

6.10   ORR asked for the Target Operating Model's organisational chart explaining asset management structures within NH operational teams, and further relevant information about the roles and responsibilities of various teams and individuals.

ORR assessment

6.11   The Asset Class Strategies and Handbooks set out National Highways' approach to asset management and renewals. Within each asset group there are designated Asset Engineering Teams who identify the asset need. They do this by collating asset data that comes through from various sources – e.g. feedback from traffic officer teams, customer complaints, inspections to collect asset data, staff 'network knowledge', progress with the existing programme, and development of the future programme.

6.12   That is then pulled together into the ULON which sets out all the asset need in that region for that asset type. These are collated nationally. There appears to be a largely consistent approach across assets although some assets are more (pavement) and less (lighting) mature – these areas of weakness are one of the key limitations.

Evidence

- Discussion at interview

- NHCI 52 Asset Management Policy

- NHCI 47 Approach

- NHCI 51 Handbooks (Pavement as an example),

- NHCI 48 Asset Needs Prioritisation Tool (ANPT) – (screen shot) North-west (NW) region Pavement ANPT showing typical ranking of schemes for the pavement asset in the NW region.

- NHCI 43 NW Unconstrained List of Needs (ULoN) – screen shot showing an example of NW unconstrained list of network needs (NW ULoN)

- NHCI 202 AMRen02 – Operations-Target-Structure-2022-FINAL.pdf

- NHCI 203 AMRen02 – NW Teams on a page

- NHCI 208 AMRen03 – Drainage Asset Needs Prioritisation Tool (screen shot).pdf

- NHCI 209 AMRen03 – NW Fencing Prioritisation Tool (screen shot).pdf

- NHCI 210 AMRen03 – NW Op Technology Prioritisation Tool (screen shot).pdf

- NHCI 211 AMRen03 – NW VRS Prioritisation Tool (screen shot).pdf

- NHCI 224 AMRen03 – Asset Needs Dashboard March 24 (002).pdf

2: Develop plan

Interview note

6.13   ORR noted that the prioritisation tools (described above) are useful within an asset class, but asked how NH combines asset approaches.

6.14   NH explained that the NW ULON tool also allows for geographic mapping of priority. This allows the regional teams to understand where there are adjacent needs (i.e. at the same location with a similar asset need). Discussions take place between engineering teams to enable them to identify where there are constraining factors such as availability, and where works can be 'bundled'.

6.15   ORR asked if there were any standards or guidelines requiring when works of a certain priority would need to be completed by. NH explained that this was more relevant in the reactive maintenance space, where works are urgent. In general, there are no required timeframes for proactive renewals. However, teams apply their expertise – for instance pavement condition can deteriorate quickly – and this would feed into prioritisation decisions. NH noted that most of these decisions would be made within Operations, using in-house experience, rather than Safety, Engineering and Standards (SES) (although Structures has a closer relationship with the central teams).

6.16   ORR asked how NH corporately balances risk across different asset classes and how the approach to risk links to key performance indicators (KPIs). NH explained that this is primarily done through the expertise of its asset managers, and collective conversations. There is increasing consistency of risk understanding within each asset class.

6.17   ORR asked if there was any form of decision tree, or structured meeting process through which to make prioritisation decisions. NH explained that this happens through the business planning cycle. Teams submit renewals plans for the upcoming financial year in November through a consistent national template. Budgets are set by February, and there are then quarterly review cycles throughout the year. However, there are not formal minuted meetings – the decisions of the prioritisation process are recorded as changes to each plan.

6.18   ORR asked if NH could share evidence of this process – NH noted that the Integrated Scheme Handbook sets out some of this process and encourages teams to identify opportunities to bundle. ORR asked if NH could share the process map for the annual business planning cycle set out above.

6.19   ORR asked if benefits and impacts to KPIs are forecast as part of the planning process. NH explained that while colleagues have regard to those top-level outcomes, the planning process captures the costs and outputs rather than impact on outcomes. Most schemes would not quantitatively contribute directly to KPIs, and the focus is on qualitative conversations, although not delivering them could have negative impacts. At national level, Operations Performance Review

monitors Red/Amber/Green (RAG) status on outputs. ORR asked for the terms of reference for the Monthly Operations Performance Review. NH stated there were no formal terms of reference for this group. It provided a description of what it does.

6.20   ORR asked how NH would prioritise between regions. NH explained this would be through the budget allocation process. The company has matured significantly in this space – at the start of RP2, each region had a different prioritisation process – now those regions have moved to a more consistent approach using the nationally provided tools. NH explained that this is still maturing, and it is moving to embed it. It has helped that the expertise is now in-house rather than in the supply chain due to the Asset Delivery model.

6.21   NH explained how it has groups that bring different personnel together. For each asset class there is a group at asset manager level with members from Operations and SES (named Tier 3). The Tier 3 groups report to a further group of Asset Needs Managers or Programme Development Manager level (named Tier 2). The Tier 3 groups have a role in prioritisation, for each asset class. For example, all the asset managers for pavement from each region meet with SES to discuss the ULON for pavement and discuss common issues. ORR asked for the terms of reference for a Tier 3 group as illustration.

ORR assessment

6.22   NH was able to explain how it developed its plans. The ULON tool also allows for geographic mapping of priority. This facilitates understanding of where there are adjacent needs (i.e. at the same location with a similar asset need). Discussions take place between engineering teams to enable them to identify where there are constraining factors such as availability, and where works can be 'bundled'. NH stated that colleagues have regard to the impact its plan will have on users, the supply chain and outcomes – however there is a limitation in that the planning process does not expressly consider the quantitative impact on KPIs.

6.23   NH was able to describe its business planning cycle and how regional plans aggregate up nationally through a templated approach, ultimately in the monthly Operation Performance Reviews. The Tier 3 groups (for each asset class) have a role in prioritisation. For example, all the asset managers for pavement from each region meet with SES to discuss the ULON for pavement and discuss common issues. Planning has become more consistent. At the start of RP2 each region had a different prioritisation process – now those regions have moved to a more consistent approach using the nationally provided tools. It has helped that the

expertise is now in-house rather than in the supply chain due to the Asset Delivery model.

6.24   However, there are still limitations as NH's process of balancing asset needs between regions and different classes of assets appears to happen mainly through conversations, rather than a clearly structured process. Much of the prioritisation process appears to rely on Operations colleagues making their own expert judgements on priority.

Evidence

- NHCI 44 NW ULoN map – screen shot of the GIS version of the NW ULoN

- NHCI 45 OD Allocations 2020-25 V14.1 Master NW – Operations Directorate RIS2 budget allocations setting out the spend to date in RIS2 together with remaining 24/25 allocations.

- NHCI 41 2024-2030 Ops Forward Plan Template Programme 1 – renewals template used for NW programme submission in November. All regions use the same template for submission.

- NHCI 42 Planning & Development National Meeting Structure – meeting structure for the P&D Tier 1, 2 and 3 Pier Groups

- NHCI 40 Terms of Reference Programme Development – example of terms of reference for the Tier 2 PDM meetings

- NHCI 53 AMRen05 – 20210421 - PPO - Capital Programme Integration - Integrate Schemes Handbook - v1.1Shared.pdf

- NHCI 212 AMRen07 – Structures Community of Practice Terms of Reference.pdf

- NHCI 51 AMRen08 – ACH Handbook - Pavement - FINAL.pdf

3: Implement plan

Interview note

6.25   NH explained that, as part of the business planning cycle outlined above, by February each year it has agreed the milestones, outputs and financial profile for delivery. This then informs budget setting. That is then shared with the supply chain (although they will have been involved in discussions beforehand). The formal agreement is that the full picture is provided to suppliers six weeks before the start of the financial year.

6.26   For most schemes, development and design work will be mostly complete before the financial year, in line with the 3D (develop, design, deliver) governance process. As the programme evolves through the 3D process reasons for change are captured. The promoting project manager (from the Asset Engineering Teams) will then handover to the delivery project managers. Development and delivery teams are engaged in conversations before the financial year starts, and also have visibility of longer-term plans. This is consistent nationally. ORR requested the latest version of the 3D governance process.

ORR assessment

6.27   By February each year, NH has milestones and financial profile for delivery. This then informs budget setting. That is then shared with the supply chain (although it will have been involved in discussions beforehand). There is a consistent national approach (3D – develop, design, deliver) that is governed through the Stage gates projects must pass through to progress. During the year, expenditure and milestones are monitored (see also 'Check' below). However, there are apparent limitations in its approach as the company appears to over programme and/or over deliver to its plans each year and is unable to articulate why and if this is an effective and efficient use of funding.

Evidence

- NHCI 50 Capital Delivery Management Tool (CDMT) – (screen shot) national system used to capture details of our capital programme and for governance of the 3D process.

- NHCI 46 Delivery Plan 2020-25 - This Delivery plan explains how we will invest our government funding in the strategic road network (SRN) up to 2025.

- NHCI 213 AMRen09 3D_User_Guide_for_Scheme_Management - Ver 2.4.pdf

4: Check

Interview note

6.28   NH explained that its initial programme is locked down by the end of February each year, and programme management offices (PMOs) are then responsible for ongoing governance. There is a strict cycle at national level about updating Oracle with finances and outputs monthly. Members of the PMOs meet project managers each month to confirm if they are on track or if change control is required, and to

discuss risks to delivery (i.e. cost and programme) – both for delivery of schemes within the year, and development/design of future schemes.

6.29   NH clarified that project managers provide monthly updates to scheme progress via the PMO and discussions at stage gate reviews. For schemes in pre-design stages, design and either stage 1 or stage 2 of the 3D process, then the project manager will be from the respective Asset Engineering team. If the scheme is in detailed design or beyond then the project manager will be in one of the Scheme Delivery teams. If schemes are delayed for whatever reason, then the relevant representative from the Asset Engineering Team will be involved in that discussion to understand the issue and therefore be aware of the change to the programme.

6.30   In relation to stage gate reviews, again there is 2 stage gate approvers, one from Planning & Development and one from Scheme Delivery. The current stage project manager will always present the scheme and if that is a Scheme Delivery representative then a relevant representative from the Asset Engineering Team will also attend the stage gate review to understand the latest position and any issues/risks/constraints to scheme progress and have the opportunity to comment prior to the Go/No Go decision being made.

6.31   ORR asked whether checks are carried out to confirm that the schemes are delivering the outcomes they are meant to deliver, and how project teams report back to asset teams. NH explained that at the end of the project (at Stage gates 6 and 7) there would be discussions between the project and asset team to discuss whether the scheme had delivered the (qualitative rather than quantitative) benefits expected. But if a project team identified a new asset issue whilst on site, they would reach out directly to the asset team.

6.32   NH explained that the 3D governance process builds in a 20-minute discussion at each Stage gate.

ORR assessment

6.33   Regional PMOs are responsible for ongoing governance and checking the plan is delivered. There is a strict cycle at national level about updating Oracle with finances and outputs monthly. Members of PMOs meet project managers each month to confirm if they are on track of if change control is required, and to discuss risks to delivery (i.e. cost and programme) – both for delivery of schemes within the year, and development/design of future schemes. The region maintains a real time programme.

6.34   At the end of the project (at Stage gates 6 and 7) there would be discussions between the project and asset team to discuss whether the scheme had delivered the (qualitative rather than quantitative) benefits expected. However, a limitation is that there appears not to be ongoing checks during project delivery around whether the intended benefits will be realised, and these benefits are not quantified. The ad-hoc levels of asset team engagement during delivery is also a limitation because it risks a misalignment between project delivery and asset management.

Evidence

- NHCI 213 3D governance process

- NHCI 54 Change Control User Guide – user guide to explain the process for managing change control within Operations.

- NHCI 41 NW RPR Dashboard – national template used for compiling regional reports on readiness for in year delivery and future year development.

- NHCI 217 - AMRen10 - RPR Dashboard Annotated (1).pdf

5: Correct

Interview note

6.35   ORR asked what happens if a stage gate is not a success. NH explained that these are recorded as 'No-Go' decisions with actions associated. But these rarely come as a surprise – if there were known issues, project teams might postpone stage gates, in order to address the issues first. If a scheme is no longer progressing, then project teams would attend a stage gate to formally secure a No-Go decision for governance purposes.

6.36   ORR asked to see an example of a No-Go decision.

6.37   ORR asked whether change controls to projects can only be initiated by the project team, and if changes only relate to funding, programme or output changes. ORR also asked what happens if there is a change in the level of asset need. NH explained that if works planned for delivery needed to be brought forward due to asset issues, that would be a programme change. NH explained that prior to Stage Gate 3, the Asset Engineer is the Project Manager, and if schemes are still in development that would not trigger a change control.

ORR assessment

6.38   The Stage gate process outlined by NH sets out a robust framework that allows for a controlling mind to manage changes to schemes during deliver and provides a check and balance to the teams. During development and design, the asset engineering team is the project team meaning that changes in asset need can be easily reflected in the scheme.

6.39   However, the process appears to have limitations in that it focuses largely on costs and programme, rather than on output changes. Also, there appears to be some informality in how the 3D governance process is applied. For example, it was unclear what criteria applies when project teams decide to 'pull' stage gates.

Evidence

- NHCI 213 3D governance

- NHCI 54 Change Control User Guide – user guide to explain the process for managing change control within Operations.

- NHCI 215 AMRen11 Examples of No Go decisions from CDMT NW region.pdf

- NHCI 216 AMRen12 CDMT Training Guide - Stage Gate Planning Tab.pdf

- NHCI 219 AMRen13 NW Schemes Tracker Screenshot.docx

6: Learn lessons

Interview note

6.40   NH explained that lessons learnt are recorded through the Capital Delivery Management Tool (CDMT) – Stage Gate approvers should make sure relevant lessons are recorded on CDMT. Those lessons are then nationally available for anyone to draw on. NH noted it had provided a screenshot of the lessons learnt section in CDMT.

6.41   ORR asked how NH checks if lessons are relevant or not. NH explained that the information on CDMT is available to all, so it is for individual project managers to consider whether they are relevant or not. CDMT includes contact details so project managers can reach out. The Tier 3 forums are more important for discussing lessons learnt at asset class level, and Tier 2 forums at a development managers level.

6.42   ORR asked if there is any way to filter whether the same lessons are coming through. NH noted that CDMT is the first step – and that there is now much more visibility than at the start of the second road period (RP2), and that knowledge is within NH rather than in the supply chain. NH explained there is guidance provided to all CDMT users in the Training Guide for Lessons Learnt.

6.43   ORR asked if there was a process for recording how lessons learnt have been applied and whether these have impacted on KPIs. NH noted that in the case of efficiencies, these would be recorded on the Efficiency Register by PMOs that then feed up to the central performance team.

6.44   ORR asked whether NH felt it had sufficient confidence in the data it is getting around lessons learnt. NH noted that it was still maturing, but that the data was now much more consistent and useful than historically, and it is seeking to continue to evolve the CDMT tool and change control (e.g. through the improvement of the 'Other' category in scheme change). The data can only go so far, and there will always be a need for qualitative learning as well. What has changed is that the knowledge is now much more in-house. NH explained that planning and development staff are represented at Stage Gates 1 to 7 and CDMT provides increased visibility and richer conversations although not formalised.

6.45   ORR asked if NH had the right level of data, with respect to lessons learnt, to support decisions. NH explained that it relies on people's knowledge and experience and 'human conversation' via the Tier 2 and Tier 3 groups.

6.46   ORR asked about the frequency of the cycle of improvement. For instance, large numbers of project delays are recorded as being caused by 'other' or 'PIN admin', and this issue has been ongoing for over a year. NH noted that the transformation team that manages this is looking at system automation, implementing changes to overcome overuse of these reasons (but need to give careful consideration as to when changes are implemented) and that the change control system sits alongside CDMT. The aim is to move towards more data led decisions.

ORR assessment

6.47   Through CDMT, there is a clear tool in place to capture lessons from schemes. This is also the mechanism through which lessons are disseminated. Stage gates play a particular role in identifying lessons and providing challenge around how lessons have been applied within the scheme. Overall, NH sees itself on a journey. There is now much more visibility than at the start of RP2, and that knowledge is within NH rather than in the supply chain.

6.48   However, there are significant limitations. There is no governance around control and managing lessons learnt. The information on CDMT is available to all, so it is for individual project managers to consider whether they are relevant or not. There isn't a central lessons learnt register for instance (as there is on efficiency).

6.49   More widely, NH's emphasis appears to be about supporting conversations and improving individual knowledge. The Tier 3 forums are more important for discussing lessons learnt at asset class level, and Tier 2 forums at a development managers level. It is not a data-led approach, nor is it clear at this stage how NH plans to mature and improve its approach to learning lessons.

6.50   NH provided a CDMT training guide, as evidence for how its teams apply changes utilising CDMT. We found it to be still quite weak evidence – it was not a formal process for changing the renewals process.

Evidence

- NHCI 49 Lessons Learned Log (CDMT) – (screen shot) log of active lessons learned embedded in CDMT.

- NHCI 220 AMRen14 Sept 2023 Accelerated Schemes.xlsx

- NHCI 221 AMRen16 CDMT Training Guide - Lessons Learned.pdf

7: Update approach

Interview note

6.51   NH noted that one area where it had updated its approach was for some types of schemes it was taking longer to complete the development stage than had originally been anticipated. In response to this learning, it is working towards spreading development over a longer period of time, which should reduce the volume of changes. That change has been cascaded nationally through the Tier 2 and Tier 3 groups.

6.52   ORR asked how that process was formalised and documented. NH noted that it was not a blanket rule or centralised process/policy, but that those involved in the planning process were widely aware. Within the region, when developing next years' plan, PMOs would consider lessons – e.g. allowing 18 months for development and design rather than 12 months if relevant to that scheme.

6.53   ORR asked how, as a business, NH ensures it does not forget lessons previously learnt. NH explained that if it was a change to governance processes, that would be captured in the 3D governance framework. There is also a CDMT working

group looking at ongoing processes to improve CDMT – noting CDMT and 3D are intrinsically connected.

6.54　ORR asked how the benefits of changed approaches are captured. NH noted some of these might come through as efficiencies, or through qualitative benefits such as improved programme maturity (for instance reducing the 'hockey stick' effect at year-end and having fewer last-minute changes) – but it would be hard to quantify benefits.

6.55　In the NW region this year, the baseline work programme featured large volumes in summer, then tailed off in winter. Due to delays to capital enhancements within NH, the region has been able to accelerate some renewals. The NW region was able to do so because it had a mature programme with schemes ready to be delivered.

6.56　ORR asked if NH could provide a list of schemes that were considered but not accelerated. And if schemes were not accelerated, when they would subsequently be delivered.

6.57　NH explained that the decisions to accelerate were based on project readiness and road space availability. Most of the schemes brought forward were pavement schemes. In general, schemes were mostly accelerated by only a few months, but this in turn creates more flexibility in the following year.

6.58　ORR asked if this level of maturity was consistent nationally. NH explained that the regions started RP2 in very different places mainly due to the timing of their move to Asset Delivery, but that all regions are maturing. It takes time to reach a level of programme maturity – NH does not pause the delivery of schemes in order to get ahead on development.

6.59　Linked to this, NH has changed its contracting approach towards frameworks, so it no longer has to swap designers midway through development. There is continuity of project managers within NH, now that more of the work is in house. In-housing also makes it easier to update because changes just need to be made to internal processes, rather than as a variation to a contract.

6.60　At the end of the meeting, NH talked through its dashboard showing the maturity of the programme in the NW region. The stretch aim is to have 80% of projects designed in advance of the financial year. For the upcoming financial year, by January 48% of the programme (by value) had completed detailed design, with a further 27% in detailed design. ORR asked for a PDF of the Regional Programme Review report annotated with the purpose of each section.

6.61   More generally, ORR asked how quickly NH was able to enact a change in response to a specific learning. NH noted that it depended on the nature of the learning, but it can be immediate. For instance, learnings in the design process can be fed straight back to designers.

6.62   ORR asked how feedback to standards is managed. NH explained that this happens through the Tier 3 groups to make SES aware.

ORR assessment

6.63   NH explained that it is working towards spreading development over a longer period of time. This should reduce the volume of changes. That change has been cascaded nationally through the Tier 2 and Tier 3 groups. However, we have not seen evidence of this, and when we asked in the meeting NH stated that this approach was not formally documented anywhere.

Evidence

- NHCI 218 AMRen17 - RPR Dashboard Annotated (2).pdf

- NHCI 215 AMRen18 - CDMT ES Advisory Group ToR.pdf

- NHCI 215 AMRen19 - 11 VRS & Signs T3 Minutes Oct 22.pdf

Relevant evidence

6.64   Annex D contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

6.65   National Highways relies on its 3D (develop, design, deliver) governance and change control processes. Key limitations include: an apparent absence of ongoing checks around whether benefits are delivered; benefits not being quantified; and ad hoc levels of engineering engagement during delivery. At the end of a project there are discussions between the project and asset teams to discuss whether the work has delivered the benefits expected. However, the company struggled to evidence that monitoring planned benefits occurred during earlier stages of the project, therefore not giving it assurance that the intended benefits are those delivered at completion.

6.66   National Highways' approach to corporately balancing risk across different asset classes and its approach to risk linked to Key Performance Indicators (KPIs) is primarily done through the expertise of the asset managers, and collective conversations. There is increasing consistency of risk understanding within each

asset class, but the general approach did not seem to strongly adhere to an evidenced process.

6.67   National Highways demonstrated good decision-making evidence using its 3D governance process. However, forums such as the monthly operations performance review, where issues are discussed and resolved regionally including (but not limited to) KPIs, performance indicators (PIs) and programmes undertaken have no terms of reference. The evidence and reasoning upon which a decision was made at these reviews was limited and/or absent and therefore the basis of decision unclear or unknown.

6.68   The change control process appears to only be initiated by changes to cost and programme and not changes to asset need, or outcome/benefits.

6.69   National Highways captures lessons learnt data on its CDMT (capital delivery management tool). However, we have seen no evidence that the company is systemically using or disseminating these lessons. The company has told us about 'meaningful discussions' but was unable to evidence them.

6.70   National Highways shared during interview an in-year delivery dashboard for asset management renewals that it had not previously provided to us. It showed in-year performance against a baseline position. This would have supported on-going discussions and concerns we have around its performance management.

7. Average delay KPI

ORR score

7.1   Table 7.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 7.1   Scoring against the planning and delivery cycle for average delay KPI

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Average delay KPI	Elements of strong evidence	Partial evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence	Little or ineffective evidence

Interview and evidence assessment

7.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

7.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

7.4   The interview notes below refers to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify need

Interview note

7.5   National Highways (NH) noted that there have been different approaches to target setting in this space. In the first road investment strategy (RIS1) average delay

was a key performance indicator (KPI) without a target and in the second road investment strategy (RIS2), the KPI was set as an ambition. There was a concern of NH having limited ability to influence the target – as set out in the evidence pack, NH believes that around 80% of delay is outside its control. Entering the second road period (RP2), NH had forecast that delay would get worse. These two factors combined were why it is an 'ambition' for RIS2.

7.6   However, NH recognises that managing delay is vital – with the impact this has on customer satisfaction (delay is the biggest driver) and costing the economy over £3bn a year. Delay is at the top of the Customer Service Strategy pyramid and is linked to work looking at journey times.

7.7   There are some elements of delay that NH can manage – e.g. incidents, delays to roadworks that are monitored through separate KPIs covering incident clearance and the impact of roadworks. This is why NH agrees that it is right to be held to account for what it can do, as set out in its 2021 plan for managing delay on the strategic road network and the agreement of the measure as an ambition for RIS2. NH also committed to publishing more delay data in RP2, It has made progress with this (e.g. with the Travel Time Reporting Tool).

7.8   ORR noted that traffic is lower now than pre-RP2 forecasts and there are fewer roadworks, yet delay is still worse. NH noted that scheme delays mean that expected benefits have not come to fruition. Traffic mix and volume has come back differently post Covid-19, and in different areas – and not necessarily where the capacity is. NH noted it is also seeing an increase in incident levels, possibly related to the costs of living crisis. NH also noted that delays were forecast to increase in RP2.

7.9   ORR asked whether the fact that the 9.5 seconds delay per vehicle mile is an ambition (not a target) has changed NH's approach. NH noted its focus is on doing whatever it can, and therefore the status of the KPI has not changed what it does in practice. For example, during covid when delays were lower, NH did not stop working to reduce delay. However, the company's approach to how it influences performance against this KPI was different to other KPIs. This stems from delay being seen as less controllable than other KPIs (e.g. pavement condition) and this has resulted in less focus from NH on the specific figure of 9.5 seconds (as might be the case with targeted KPIs) but instead to consider whether it is doing everything it can to mitigate delays. This should feed into the third road investment strategy (RIS3) discussions about how to set the KPI – at RP2 NH signed up to an ambition, due to the many factors causing delay outside NH's control, and the fact that delay was projected to be above 9.5 seconds throughout RP2.

7.10   NH looks at previous delay figures and interrogates whether these have been cleared as fast as possible – the Chief Analyst's Division meet monthly to review performance. ORR asked NH to confirm the title and scope of those meetings.

ORR assessment

7.11   NH recognises that the need is ultimately identified through the KPI target/ambition to achieve under 9.5 seconds delay per vehicle mile in RIS2. More broadly, NH spoke about how it had identified the importance of managing delays to customers by drawing on customer research that consistently shows that managing delay is one of the most important things for road users – showing it recognises the wider drivers and outcomes.

7.12   As part of the RIS2 setting process, National Highways modelled delay, with delay expected to increase and then return to the 2020 figure by the end of the road period. NH told the roads minister that the company believes it has little control over demand on the network and weather. These are key components of average delay. It said additional investment would be required for a hard target to be set, but the company had not calculated the additional investment amount.

7.13   The lack of control NH has around average delay is one of the main reasons for this being an ambition. NH explained how forecasts showed that delay would be higher than 9.5 seconds by the end of RP2 but that it was appropriate for the company to be doing everything it could to minimise delay. This has not changed NH's approach to developing a plan, but ultimately leads to less focus on meeting the absolute number and more on determining whether the company is doing everything it reasonably can.

7.14   Overall, the need was clearly identified, supported by modelled data showing expected growth in delay over RP2. The approach NH has taken to this being an ambition rather than a target means that addressing this need is limited around taking the right actions, rather than a sharp focus on the specific target number, as for other KPIs.

Evidence

●   NHCI26 Average delay background evidence

●   Discussion at interview

2: Develop plan

Interview note

7.15   As part of the RIS setting process, NH worked with Department for Transport (DfT) to identify what actions would be most useful to address delays in RP2. NH looked at the USA (Massachusetts) delay plan and spoke to international experts, as well as the RAC Foundation. NH spent nine months developing the plan looking at what drives delay and how this links to customer experience. Taken forward through the Managing Delay on the Strategic Road Network (SRN) Plan, and the Delay Research Plan. In the plan, there were three focus areas: roadworks, congestion, and incidents.

7.16   NH talked about an example of deconflicting National Emergency Area Retrofit (NEAR) works with an M25 closure that coming weekend. NH is conscious of the customer impact of doing both at the same time, and the need to alleviate impact. It decided to postpone works and will revisit it in a month's time.

7.17   ORR stated the planned actions were sensible, and asked if there was any quantification or prioritisation within the plan. NH said it had looked at what it thought made the most difference, for instance looking at delays caused by specific types of roadworks and most affected routes. But it does not attempt to tie this back to the overall KPI (NH was not sure this was technically feasible given the multitude of factors that feed into the overall average delay levels).

7.18   ORR noted that the evidence provided suggested that Highest Safe Speeds (HSS) would save 10 million vehicle hours off delay. NH suggested this probably was not quantified before the programme got underway, as NH has been moving towards this gradually for a while. This estimate was derived by comparing 50 mph to 60 mph speeds. However, this depends on driver behaviour. ORR asked for evidence of how these benefits were calculated.

7.19   NH noted that HSS was initially rolled out with trials within Major Projects and is now rolling out to Operations. Decisions made at a scheme level as also need to balance safety, customer experience and local concerns. NH cannot force the supply chain to adopt it as they hold the safety accountabilities.

7.20   ORR asked if there were any options that NH had considered when developing the Managing Delay plan that it had subsequently ruled out, for instance demand management. NH noted that it needed to operate within government policy, for example it had ruled out road pricing and not challenged government on this. ORR asked for evidence of how demand management was considered.

7.21   In developing the delay plan, NH noted that there were several stages of internal challenge to make sure the package was challenging but deliverable. This included the Executive Customer Service Committee (ECSC), Executive, and the Board.

7.22   ORR asked how the delay plan was assured once it coalesced around the 18 options and what stakeholder engagement took place. NH stated it that had engaged with ORR, DfT, Organisation for Economic Co-operation and Development (OECD) and academics at the time. ORR asked for evidence of that engagement.

ORR assessment

7.23   National Highways developed its plan for Managing Delays on the SRN, published in 2021. This appears to be a reasonable plan and, in it, the company has set out clear actions and themes.

7.24   NH explained how it consulted stakeholders, including DfT and Transport Focus about what good performance would look like. The company developed a delay research plan to build understanding where gaps existed around things like the causes of delay and how it links to customers' experience. The plan went through the ECSC before publication.

7.25   However, significant limitations in the plan include that:

- quantification of individual interventions were not made. The focus was more on delivering the right actions to mitigate delay than quantifying exactly what impact they would have on the KPI in terms of seconds delay/vehicle mile;
- the actions were not prioritised within the plan; and
- any actions to manage demand, and thus congestion were discounted from the action plan following internal scoring based on expert judgement and a decision from the principal analyst.

Evidence

- NHCI26 Average delay background evidence

- Discussion at interview

3: Implement plan

Interview note

7.26   ORR asked how NH worked across the business to deliver the plan, and whether it had experienced much challenge. NH noted that there was engagement with the

business when developing the plan, so people were signed up to it, and operational colleagues (both Major Projects and Operations) instinctively understand that managing delay is key.

7.27   NH now has mechanisms in place such as monitoring through the Delay Action Group (DAG), then to ECSC. These allow for roll out across the business – for instance work on incident clearance was trialled in one region before being rolled out more widely. Another example action looked at how signage can reduce delay, working with operations, policy, and safety. The impact was simulated before rolling out and was estimated to save 1,000 hours of delay per day.

7.28   NH explained that each action in the plan has an accountable Divisional Director – consciously building on the organisational structures already in place with Customer Directors and ECSC.

7.29   ORR asked to see who owns which elements of the plan, and for an example of how an action in the plan has been communicated to the business by its owner (e.g. HSS). NH explained that in this case it would not be a direct instruction to a project team – rather it is for schemes to consider on a case-by-case basis. However, the general approach is set out through Roadworks – A customer view (a toolkit developed by NH to help schemes improve customer experience during construction), and compliance with this is measured through Roadworks Audits.

7.30   ORR asked when the DAG was established. NH confirmed that the DAG was not in place at the start of RP2, and that reporting had been through customer service mechanisms. But it had recognised there was no forum for more technical discussions. NH believed the DAG may have been set up after Covid as delay started to rise. ORR asked NH to confirm when the DAG was established and share Terms of Reference for the group.

ORR assessment

7.31   NH has clear owners for each of the actions in the plan to manage delays on the SRN, and it is implemented by owners throughout the business. Having built the action plan in collaboration with the business, the actions were well received by operations and by major project colleagues. Embedding the Average Delay Plan in the business was done by involving relevant directorates in its development. So, major projects were involved in rolling out HSS, for example.

7.32   The DAG was set up in September 2023. It co-ordinates implementation across the business and provides a mechanism for reporting progress back to the Executive. Prior to this, the discussions were held at Executive level.

7.33   Overall, NH has taken a decentralised approach to delivery. This appears to have secured buy-in and there are processes in place to check that actions are implemented in practice. Key limitations however are that, because the plan does not contain quantified benefits, the actions are not prioritised, and it is impossible to tell whether the actions are effective and having the desired effect on delay and therefore value for money.

Evidence

- Discussion at interview

- NHCI172 ORR request - NH CSP23_24 initiatives - internal version with names.xlsx

- NHCI194 Delay Action Group - Terms of Reference.pdf

- NHCI188 Highest Safe Speed in Road Works - Improving the Customer Experience (1).pdf

4: Check

Interview note

7.34   ORR asked how NH knows whether actions in the plan are being delivered or not – for instance how does NH know that 85% of worksites are using HSS.

7.35   NH explained that delivery is fed back to each action owner and the HSS is picked up by the roadworks audit. ORR asked for an example of the sort of reporting an action owner would receive.

7.36   NH noted that across the whole plan, actions are reviewed each month with ECSC. Within the Customer Service Plan, each accountable director needs to show how their action has been delivered each year. There is a change control process in place if needed. ORR asked if there is a standalone report on the delay action plans – NH confirmed that there is no standalone report, and it comes through in reporting on the Customer Service Plan. ORR asked to see an example of the ECSC reporting and change control process.

7.37   ORR asked when ECSC began taking a greater interest in delay when it began to rise, and whether this was linked to the average delay KPI ambition that delay should be no higher than 9.5 seconds per vehicle mile by the end of RP2. NH noted that ECSC was always interested, especially during Covid. NH created a daily dashboard on usage that was shared with DfT and Cabinet Office.

7.38   NH noted that, as traffic began to return post-Covid, delays began rising faster than traffic levels. This was identified through the monthly performance meetings. ORR asked to see evidence of the inputs/outputs of those meetings that shows what sort of issues are discussed (and confirm names, as noted under 'identify need').

ORR assessment

7.39   Across the business, progress is monitored through the DAG and NH's Network Analysis team has monthly performance catch ups with regions and the Chief Analyst to discuss the data on average delay. However, the subsequent evidence provided from these meetings was limited in terms of identifying how discussions about the data had informed any actions taken by the company to mitigate delays.

7.40   At senior level there appears to be a suitable reporting mechanism in place (DAG and ECSC) and verbal evidence of senior interest in delay on an ongoing basis. Last year there was a quarterly business review (QBR) deep dive into delay.

7.41   Other forms of checking include the ongoing research programme into the causes of delay on the SRN. This also supports NH to build its understanding of delays on its network, but the company has yet to develop actions that are informed by the results. On the intervention to deliver the HSS through roadworks, NH conducts roadworks audits to identify where this is in place. This is one way that the company ensures its planned interventions are being implemented.

7.42   Overall, there is some evidence of checking the impact of individual actions on average delay and changing approach at individual project level, but not for the overall plan/strategy for managing delay. Again, the significant limitation is that, as the plan is not quantified, it is impossible to check whether it is delivering in practice and is value for money.

Evidence

- Discussion at interview

- NHCI192 Delay KPI update ECSC slides.pptx

- NHCI190 Extract from NH Board Minutes.docx

- NHCI193 Delay KPI QBR.pptx

5: Correct

Interview note

7.43   ORR asked at what point NH realised that the KPI was at risk, and whether the plan was reconsidered at that point.

7.44   NH said that research into delay is ongoing, so for NH the priority remained focusing on the delays that it could control. For example, the NEAR programme has had a substantial impact – works are affecting delay on large parts of the network.

7.45   ORR asked if there were any examples of where the plan has changed because delays are higher. NH listed several actions that have changed:

- customer journey mapping;

- interviewing drivers to understand customer experience of delays;

- top-up, rest, inspect, repair (TRIP) campaign;

- communications campaigns around tyres;

- investigating recovery operators; and

- looking to improve data through surveying those who have driven through an incident.

7.46   ORR asked if there was a document that would evidence and summarise these actions. NH suggested that the Quarterly Business Review (QBR) pack would provide this. ORR requested to see these slides and asked how the new actions were signed off. NH explained that QBR is an Executive level meeting, with a role to provide internal challenge for project teams if it felt more should be done to improve or prioritise delivery.

7.47   NH provided several examples of where actions have changed – spillages, variable speed limits, and using findings from the Roadworks Innovation Competition to use artificial intelligence (AI) to better help identify when best to close roads. Those all fed into the Customer Service Plan for the next year.

7.48   ORR asked if NH carried out stakeholder engagement on revised actions. NH noted that this process was mainly internal, but that there were conversations with stakeholders, including Sub National Transport Bodies and the RAC Foundation,

even if not formal engagement on the plan, and some challenge from Transport Focus.

7.49   NH noted that the Delay Action Plan inevitably cannot contain everything that affects delay, as it would be unmanageable. The Customer Service Plan is also closely linked, as is the Smart Motorway Steering Group.

7.50   ORR asked how the analysis around top ten delay areas has fed into decision making. NH noted that the top ten areas are a focus for Route Strategies and can continuously change. The reporting allows visibility to rise up and helps inform discussions with route managers about whether they had done everything possible to reduce delays (this drives behaviours), but the issues would always have been examined. The focus is on whether NH has done what it reasonably could have done.

ORR assessment

7.51   As performance declined following the pandemic, NH looked to introduce new actions to mitigate delays. These included reducing delay through design of roadworks and updating the Travel Time Reporting Tool. Other actions identified were already covered by the delay action plan. These are discussed at DAG and then presented at the quarterly business reviews (QBR). Regional analysis has been going on for a long time, with more detailed analysis being undertaken because of ORR challenge, such as the top ten worst performing routes.

7.52   These examples show evidence of NH taking some corrective action in response to a downturn in performance.

7.53   In terms of reviewing/changing plans each year, this is done internally, although Transport Focus were a party to check and challenge the new actions. The new actions were discussed at the QBR, but it is not clear yet whether this was for 'visibility' or 'decision'. It is not clear to us currently how the delay research programme has fed into the action plan and whether NH has taken corrective action in response to any findings.

7.54   The key limitations are therefore that, although NH is clearly taking corrective action, it cannot evidence that it is taking the 'right' corrective action – especially as the check/challenge process for changes to the plan appears to be less robust than the evidence and engagement it used to develop the plan initially.

7.55   National Highways pointed to the recent TRIP campaign on reducing breakdowns on the network, however this was a safety focused campaign that happened to

reduce incidents and delay, rather than being led by a need to reduce delay. There was therefore no quantified outcome for delay from the campaign.

Evidence

- Discussion at interview

- NHCI 26 Average delay background evidence

- NHCI176 NH TRIP_Information for ORR.docx

6 and 7: Learn lessons and update approach

These two discussions were combined in the interview and are presented together here.

7.56   ORR asked what happens when actions are not delivered and how that feeds back into the plan. NH explained that if there are changes within the Customer Service Plan, there is a structured change control process. ORR asked to see an example of a change control, and associated ECSC minutes.

7.57   ORR asked if there were any examples where actions were not having the expected impacts. NH noted that existing Smart Motorways may not have had the expected impact on delay. NH has changed its algorithms that estimate delay impacts, and has managed this through the Smart Motorway Steering Group.

7.58   NH noted the example of the M25 closure this weekend and that it can be bolder with communications to drivers to mitigate delays. As the NEAR programme is rolled out, NH is carrying out regional analysis of where that traffic may go.

7.59   ORR asked what lessons have been learnt from RIS2 and how these could feed into RIS3. NH noted that the first road period (RP1) approach may be more appropriate – focussing on whether NH has delivered its plans, rather than tracking a number. For instance, incident or availability KPIs have a bigger impact on behaviours.

7.60   ORR asked about the impacts of major projects, as these are often billed as improving delays. NH explained that delay reduction is often at the heart of the appraisal process, and that most benefits are from reducing delays. However, as the enhancements portfolio has shifted to the right, this positive benefit has not materialised in RP2. However, compared to the macro level factors, even if these schemes had all delivered as expected, this probably would not mean that NH would meet the ambition in any case during RP2. NH also spoke about exercising caution around learning lessons from individual interventions. All locations are different with different challenges (e.g. interaction with local road network) and an

intervention that has not worked in one location should not automatically be discounted because it may still be effective in a different location.

7.61   ORR asked how NH fed into the planning process (e.g. for new housing) as a statutory consultee. NH explained that the bar is set quite high and that a development can have a 'detrimental impact' on delays to be considered – in line with government policy to increase housebuilding. It is challenging for National Highways to object to some developments that do not completely mitigate their impact on delay. NH works with councils to shape their development plans.

ORR assessment 6: lessons learnt

7.62   At a tactical/initiative level, NH gave some examples of where it learnt lessons, NH has changed its algorithms for variable sign setting to reduce the number of signs displayed on approach to an incident without making it any less safe. This was observed to have a positive impact on traffic flow and therefore added to the delay action plan through an established change control process. NH noted the example of the M25 closure in March, where it will example the impact of road closures in real time to adjust any communications for future closures, such as for the NEAR programme.

7.63   Another example was the Pinch Point programme evaluation, published in April 2019, which identified that having too many signals at roundabouts could increase delay. Delays in the delivery of RIS2 enhancements was also a factor in increasing delay, as expected benefits were not being realised, although benefits were only realised at a local level and wouldn't impact average delay at a national level.

7.64   However, NH was wary of applying lessons learnt from the Pinch Point programme more generally. As each scheme has different challenges (e.g. interaction with local road network).

7.65   The major weakness of the lessons learnt was the lack of strong evidence of National Highways changing its approach to mitigating delays when it became apparent that the current approach was not sufficient to achieve the KPI. There were small changes to actions, such as the use of variable signals and some lessons from the Pinch Point programme applied to scheme design, but the changes were at a high-level and would be unlikely to impact delay on a national scale, with major projects mostly impacting delay on a local scale.

Evidence

- Discussion at interview

- NHCI242 AvD25 - Change Control for VSS Project.pdf

ORR assessment 7: update approach

7.66   Whilst lessons are learnt from the set of actions influencing delay, NH's ability to substantially influence major project design and government policy (e.g. on planning) is limited. Overall, because the benefits are not quantified, it generally believes that the approach set out in the plan is the right one to take, but that the actions it takes are dwarfed by macro level factors which are beyond its control. There is still a lot of work required to fully understand delays on the network and to quantify the impact of its actions.

7.67   Within RIS2 there was little evidence of changing approach. The company set up a delay action group in Sept 2023 to give more focus to delay specifically compared to being a part of the ECSC, but this has not resulted in a significant change in the actions taken to mitigate delays.

7.68   For RIS3, NH noted that returning to the RP1 approach may be more appropriate – focusing on whether NH has delivered its plans, rather than tracking a number. The company is not planning to change any of its governance structures until the outcome of RIS3 is known.

Evidence

- Discussion at interview

- NHCI193 Delay KPI QBR.pptx

Relevant evidence

7.69   Annex E contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

7.70   National Highways has developed its 'Managing Delay on the SRN' plan with the aim to manage delay on the network. It has clear actions and themes that in theory may help minimise delay. The company's approach that the KPI is an ambition rather than a target also means that it is viewed differently internally compared to targeted performance metrics. We recognise that fully understanding the reasons for increasing delay on the network is challenging.

7.71   There are significant limitations in the development and implementation of the company's plan as it does not include the quantified benefits of intervention. It therefore is not possible to tell whether the actions that the company is

implementing are good value for money and/or effective in reducing delay on the network. Similarly, while there is evidence of the company taking corrective actions it has not been able to produce evidence to demonstrate that it is taking the "right" corrective actions at the right cost.

7.72   National Highways produced a delay action plan setting out its approach to achieving its average delay KPI ambition, but it has been unable to evidence the impact of its planned interventions or justify how it prioritises spending in these areas. It did not proactively look into the sections of the network that are performing worst against the KPI or consider the impact of its interventions at these locations until pressed to do so by ORR.

7.73   National Highways collects large amounts of data relating to traffic flows and delays on its network. It has also set out an extensive list of actions it is taking to mitigate delays on the network in RP2. However, it is unable to bring these two elements together to evidence the impact of its interventions on KPI performance, and therefore spending, in an effective and efficient manner.

7.74   Despite interrogating delay data, the company has struggled to understand the causes of delay increasing significantly above pre-pandemic levels, even though overall traffic levels remain slightly below pre-pandemic levels. It only began more granular analysis to identify the worst performing areas of the network following ORR challenge.

7.75   National Highways shared during the investigation monthly chief analyst updates on average delay performance. This included named owners for actions in the delay action plan and change control forms where actions are delayed. This information had previously not been shared with us in this format.

7.76   National Highways does not hold appropriate data to show the impact of the actions it takes to manage delay on the average delay KPI or how it can effectively prioritise delivery to achieve this. This is information we have been requesting as part of our enhanced monitoring of this issue over the past six months and that we would reasonably expect it to have. There is also evidence that in designated funds the central team does not have data to show how schemes that are designated to support performance deliver the expected impacts on KPIs.

8. Pavement Condition KPI

ORR score

8.1   Table 8.1 provides a breakdown of scoring against the seven elements of the planning and delivery cycle (figure 2.1). Scoring is described in figure 2.2.

Table 8.1   Scoring against the planning and delivery cycle for pavement condition KPI

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Pavement condition KPI	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Little or ineffective evidence	Little or ineffective evidence	Little or ineffective evidence

Interview (first session) and evidence assessment

8.2   As set out in our case to answer letter, ORR's assessment is based on the information that National Highways provided as part of the investigation in its written submissions, including in response to requests for information, and in representations made by the company in interviews. This is supported by information and knowledge gathered as part of our business as usual and enhanced monitoring, but insofar as reasonably possible we have focused only on what we gathered and were told as part of the investigation.

8.3   For each interview we had two members of ORR staff in the room who scored the interview and evidence separately. This was then combined and moderated with a third team member who had not participated in the interviews. This was to provide appropriate rigour and internal check and challenge.

8.4   The interview notes below refers to the additional information ORR requested from National Highways. **The company provided this as requested in each instance**. A complete list of information provided to support this area of interest is listed in the relevant evidence annex for this chapter.

1: Identify need

Interview note

8.5 ORR asked how National Highways (NH) identifies the need regarding pavement condition and Key Performance Indicator 3 (KPI3). NH explained that this is driven by asset need. Information on condition data comes from various sources including machine-based data, visual inspections by engineers, and feedback from those addressing defects on the network. The Regional Operations Team is structured around four groups– Planning and Development, Scheme Delivery (who manage proactive renewals), Service Delivery (who respond to urgent issues on the network) and Performance Assurance & Business Services (PABS).

8.6 Historically budgets might only be confirmed in July/August, but the road investment strategy (RIS) process has increased the scale and predictability of funding for NH. NH aims to develop schemes in one year, then design the next year, then deliver the following year. So NH is already looking at the level of need on pavement for the fourth road investment strategy (RIS4).

8.7 ORR noted this explained how asset need is understood but asked how this feeds into the KPI (recognising the 96.2% national KPI target is challenging for East region). NH explained that the KPI is modelled nationally – the region has visibility of this and that feeds into prioritisation decisions. However safety takes priority over the KPI.

8.8 NH explained it is mindful of the KPI, for instance it might extend schemes where this helped address the KPI. However, NH have made a conscious choice not to chase the KPI in the East region above overall asset condition. For the East region, KPI3 does not align well with how concrete deteriorates, making this trickier.

8.9 At a regional level, 55% of pavement assets are beyond service life. Maintaining asset life would require approximately 350 single lane km of renewals each year – in practice the region is able to deliver 200-250 single lane km within current funding.

8.10 ORR asked how the KPI is in tension with other objectives. NH explained that the sections which are non-compliant with KPI3 are often fragmented, and therefore inefficient to renew. The standards require NH to take a risk-based approach, but the KPI sets a more demanding level – for instance rutting is not really an issue until 18mm, but the KPI measures rutting at 11mm.

ORR assessment

8.11 The identified need is understood by NH as managing its pavement assets effectively, rather than meeting the KPI specifically. However, this was not robustly explained or evidenced in the investigation.

8.12 There is a disconnect as the need for pavement renewals is modelled nationally but fails to align with the KPI need at a regional level or shape regional plans/funds. The central forecasting does not appear to drive the regional planning.

8.13 At a regional level, National Highways East Region made a conscious decision to not focus exclusively on delivery of the Pavement KPI, focussing on overall condition and keeping the network safe. While the region is mindful of the KPI, it primarily applies a risk-based approach to pavement renewals, rather than focus on Pavement condition. However, there is a mismatch between the threshold for investigation as stipulated in the Design Manual for Roads and Bridges (DMRB) and the threshold for failing the pavement condition KPI. It is not clear how the region rigorously makes trade-offs between these priorities. It was also not clear why the disparity in thresholds between the DMRB and KPI have not rectified by the company.

8.14 In the additional interview, SES explained how it modelled the expected annual KPI, based on the programme developed by the regions which follows the asset management policy. Therefore, the need to achieve the KPI for pavement is not driving the annual plans. It is unknown why NH has not requested that the pavement KPI for RP3 should be changed to account for the difference in standard and policy.

8.15 NH SES told us about a new 'Amber' modelling process that identifies sections of the network which could fail in the future. This helps regions identify the needs on the pavement asset condition. Historically NH relied on 'Red' modelling of sections that had already failed and need remediation. NH has only just rolled Amber modelling out and it could not provide evidence to judge the impact of this as it was too early. But this appears to be a positive improvement.

Evidence

- Interview
- NHCI 56 3D Stage 0 - Scheme Identification.pdf
- NHCI 57 OD East VCS RAG Rating v March 2023 (4)

- NHCI 58 CS228 Skid Res Report.pdf

- NHCI 59 Pavement Asset Needs Programme

- NHCI 60 PIT_Extract_East_2023_V1.1_20240313.01.pdf

- NHCI 61 Treatment Plan Sample.pdf

- NHCI 62 Stakeholder Feedback NHHC_08191001567.msg

- NHCI 300 approach-to-asset-management_v_final.pdf

- NHCI 301 Asset_Class_Handbook.pdf

- NHCI 302 Asset_Management_Processes_Pavements.pdf

- NHCI 303 asset-management-policy-v_final.pdf

- NHCI 239 PC14 CS230 – Section 4 Shallow Treatment DMRB

- NHCI 309 PC20 - Pavement Extract - RIS2 MPM - v12.pdf

- NHCI 280 PC15 - Evidence

2: Develop plan

Interview note

8.16   NH explained that, based on asset need, the asset managers develop an unconstrained 5 to 15 year programme, and a 1 to 5 year programme which is cognisant of funding levels. Within the 1 to 5 year programme, prioritisation is based on actual asset condition data (not asset age), and the region had stepped up the frequency of inspections in the last year.

8.17   When developing the plan, NH would ideally carry out interventions that fully reinstate a 20 to 25 year asset life ("preferred interventions"). But it also identifies reserve options that might extend the asset life by 3 to 5 years but address immediate issues. There will always need to be a balance between the two types of schemes.

8.18   In developing the plan, NH also need to consider road space availability and diversionary routes from other works (e.g. major projects and the Concrete Roads Programme), or where there are opportunities to bundle works together to reduce disruption.

8.19   ORR asked whether the plan includes a forecast outturn for the KPI. NH noted that each scheme has an estimated KPI impact, examples were included in the evidence pack. For example, in the East region, schemes on the A14 and A47 are expected to make the largest impact. The forecasts are generated using the Pavement Investment Tool (PIT) (in the evidence pack), that shows where the KPI3 issues are on the route – allowing the region to target these in a more bespoke way.

8.20   KPI3 is in part formulated using data from Sideway-force Coefficient Routine Investigation Machine (SCRIM) surveys. SCRIM surveys measure the skid resistance of the road surface (pavement).

8.21   ORR asked whether the sum of all the regions plans would deliver the 96.2% target, and if there is a level of redundancy in the plan. NH noted that there has been a lot of volatility in the wider plan at the moment linked to major projects (e.g. A12 delays), smart motorways (M1 Jn10-13), third party works (e.g. Beaulieu park), and that SCRIM surveys are always volatile. The East Region expected some of these projects to deliver pavement interventions that would benefit KPI3 but will now have to consider reserve options.

ORR assessment

8.22   The plan is developed based on asset need, looking at a 15 year and 5-year planning cycle in the region, following the asset management approach. However, a key limitation is that the plan is not developed to specifically meet the KPI commitment – rather the plan is developed in accordance with its asset management policy and then the KPI impact is calculated based on the plan. There is a balance to strike between the two commitments, however NH are reactive to the requirements of its KPI3 commitment.

8.23   Planning appears to have improved in recent years, and East region explained that it has over-programmed reserve schemes to provide resilience and flexibility in the plan – this enabled it to react to the central request this year to accelerate works. The plan also takes into account other programmes requiring road space – to minimise the impact on road users. NH stated that volatility in major projects has affected the plan.

Evidence

- NHCI 105 Pavement_Performance_Feb24_20240306.01

- Interview

- NHCI 63 HE605746-ATK-HPV-ZZ-RP-CH-000103[SCRIM]

- NHCI 64 3D Stage 1 - Options Assessment.pdf

- NHCI 65, CPI Bundle Opportunities

- NHCI 66 Asset _Class_Handbook_Pavement.pdf

- NHCI 67 3D Stage 2 - Preliminary Design.pdf

- NHCI 68 Develop Plan to avoid road space clashes

3: Implement plan

Interview note

8.24   NH has considered what a plan would look like if it really chased KPI3. Sometimes the non-compliant sections are only 50-100m in length, which would be inefficient to deliver. Looking at a selection of 10 renewal schemes, only four of them were achieving more than 30% of the scheme length affecting KPI3. Looking at Area 6 recently, it was only achieving around 11% of its scheme's lengths affecting KPI3 for renewals.

8.25   ORR asked how the decision was made to focus on longer stretches. NH explained that this ties into the desire to get better whole life cost efficiency, as set out in the Asset Management Strategy. In designing schemes, aim to pick up as many areas that are missing the KPI as possible, e.g. Thorney scheme.

8.26   NH explained that interventions required to improve SCRIM survey outputs are harder to anticipate, so the region ring-fences an amount of funding per year as contingency. Also, this is more expensive that normal schemes (around £300k/km rather than approximately £230-250k/km).

8.27   ORR asked how NH understands whether benefits have been realised throughout the year. NH explained that this comes out in monthly reporting.

8.28   ORR noted that in recent years there has been a pattern where the KPI is on track all summer, then goes off track in October and November when survey data is updated. Can NH mitigate this, and how does NH know whether the plan is working before the survey is completed?

8.29   NH explained that Safety Engineering and Standards (SES) predicts road condition at the beginning of the year based on the condition data it has, estimated deterioration rates, and known schemes and this is updated when the surveys are completed in the summer/autumn and uploaded on to systems. As a region, the East see lots of volatility in SCRIM data that is provided by the survey, which is harder to model, and this partly depends on when the data is input to the system.

8.30   In previous years NH have always managed to recover performance to achieve the target. But it added that this looks more challenging this year, although performance will not be known until May 2024. NH pointed to the National Network KPI Profile Comparison slide as an example of how this is looked at nationally. Looking ahead, NH forecasts that the KPI will at its worst level in Years 4 and 5 of RP2, before improving into RIS3 as the benefits of greater organisational focus begin to come through.

ORR assessment

8.31   In implementing the plan, NH explained that the focus is on delivering larger lengths of pavement renewals for efficiency – rather than chasing the KPI with lots of small interventions. This focus on whole life costs aligns with asset strategy.

8.32   The East region trialled chasing the pavement condition KPI, with 10 schemes. However, these lacked the levels of whole-life cost efficiency compared to other schemes. Because Area 6 is already reaching 11% of impact on the KPI (above the national average) it was not continued. No plans are in place to proactively influence lengths of pavement that would score poorly with the SCRIM survey, only reactive works once the survey returns data indicating poor condition.

8.33   In additional interview/evidence provided regarding the National Programme Office (NPO) role did not show the relationship between NPO, SES and the Operational regions to understand how the different priorities were aligned and information shared. It therefore appears to be a lack of an end-to-end process and joined-up decision making across the different functions. For example, on how SES analysis/challenge feeds back into the Operations regions, as it seems to rely on local SES and Operations relationships rather than a clear nationally coordinated approach to support the need to achieve the KPI.

Evidence

●   Interview

- NHCI 60 PIT_Extract_East_2023_V1.1_20240313.01.pdf

- NHCI 69 Investigations Spec

- NHCI 70 24-03-06 NPO February meeting Programme Maturity Assessment East -2023-24 Year 4.v2.4

- NHCI 71 24-03-06 NPO February East Regional Programme Review Meeting Dashboard_v2.23

- NHCI 72 24-03-06 NPO February meeting Programme Maturity Assessment East -2024-25 Year 5.v2.4

- NHCI 73 3D Stage 3 - Detailed Design.pdf

- NHCI 74 3D Stage 5 - Construction.pdf

- NHCI 75 3D Stage 6 - Scheme Closeout.pdf

- NHCI 76 618810- Stage 3 Pavement Detailed Design Task Brief

- NHCI 77 Stage 2 Task Brief.pdf

- NHCI 78 Survey Task Order Example.pdf

- NHCI103 KPI3 Performance 23-24 (1)

- NHCI 236 PC13 M1_J10-J13_KPI3_Jan24.xlsx

- NHCI 272 & 311 PC22: Performance Plan - Pavement New KPIv0.5.docx

4: Check

Interview note

8.34   ORR asked how NH confirm what impact schemes have had on the KPI. NH explained that once a scheme is completed, records will by uploaded as soon as possible to the system so the impact on the KPI is immediate (but deterioration across other parts of the network will continue). Every part of the network is surveyed at least once each year – that data feeds into KPI reporting and informs future programme development.

8.35   ORR asked what information is provided to Board and Executive, and whether those levels of the organisation would be aware of the challenge of meeting the KPI. NH explained that the national model is provided, so Board and Executive would be aware of the declining condition, and the region also feeds up the need for increased resources via senior management. Funding roughly tripled for RIS2, but the Executive need to balance resources across the country.

8.36   ORR asked for NH's views on its SES forecast. NH felt that it had improved, and it has more visibility now. The gap between the forecast and Operations regions own expectations had narrowed over time as forecasting improved. NH felt these improvements had been driven by better appreciation of the assets, better modelling, and better understanding of how the 2022 changes to the KPI impacted.

8.37   Internally, NH has monthly performance meetings which generate and share intelligence between SES and Operations, and the NPO. Additionally, for each asset class, including pavement, there is a group at asset manager level with members from Operations and SES (named Tier 3). The Tier 3 groups report to a further group of national heads of service (named Tier 2). Both of the groups share intelligence. The NPO produces the KPI3 Performance 23-24 Tracking Report in PowerBI and provides steers on where best to focus.

ORR assessment

8.38   The national forecast authored by SES is updated monthly to check how the plan is delivering – combining survey information, deterioration estimates, and the impact of renewals plan. The information is discussed at a regional level. A less detailed update on deterioration rates is shared with the Executive and Board. However, Operations cited that there was still a gap between a region's expectation and that of the SES forecast. Such misalignment is a significant limitation on the company's ability to check whether the right interventions are being made to meet the necessary performance level of KPI3.

8.39   There is an inherent data lag in the process. Both the surveying work and the result of asset interventions are loaded 'as soon as possible'. This can be some time and significantly affects NH's ability to make timely decisions to influence its performance.

8.40   The Tier 2 and 3 meetings are used to share information across practitioners. Evidence provided, in the form of a meeting note, shows key issues being discussed between regional teams.

Evidence

- Interview
- NHCI 79 608686 A1 Wothorpe to A1M J17 P-AMS Construction Update Form
- NHCI 80 Claiming Output Form A1 Wothorpe to Wansford Resurfacing Feb 2024
- NHCI 81 KPI3 Performance 23-24_Tracking Report.pdf
- NHCI 82 RE_ TO611_823 A47 Sutton Scope change.msg
- NHCI 83 Scheme HO meeting.msg
- NHCI 81 PC5 - KPI3 Performance 23-24_Tracking Report.pdf
- NHCI 310 PC21 - KPI 2022-23 Q3 Review Group.pdf
- NHCI 232 13 Pav T3 Minutes Jul 23 (extract).pdf

5: Correct

Interview note

8.41   ORR asked how NH course corrects when the KPI is off course, NH explained that this year, that correction has come top-down (from the Executive) for the first time. In Autumn 2023, the NPO requested regions put forward schemes to help meet the KPI – the East region was able to offer several schemes which were well matured, and four of these schemes were approved for delivery.

8.42   ORR asked why this had not happened in previous years where the KPI had appeared off-track at some points. NH explained that it had never been this off-track before, and that it had realised the existing programme would be insufficient to recover in the second half of the year. Improvements in forecasting had enabled the company to make the judgements earlier – problems in KPI3 performance appeared to be emerging from summer, even though renewals delivery was largely on track. For instance, the East region has delivered almost everything in its asset renewals programme this year.

8.43   ORR noted that the Asset Management Strategy suggests avoiding short lengths of work, and focussing on whole life cost, to maximise efficiency. How did the region then adapt to this new steer from the NPO? NH explained that at a regional level it discussed the risks before approving the schemes – e.g. road space

issues, customer issues, supply chain capacity. The region probably could have progressed any of around 25 contingency schemes from future year's programmes which were mature enough, but considered these risk factors to prioritise the final four schemes which were subsequently progressed.

8.44   NH explained that there is always meant to be an element of flexibility within the pavement renewal programme, and that regions over-programme for this reason. The East region for example has a mature forward programme which it is able to pull-forward from. ORR asked whether that was true nationally, and NH explained that different regions were at different levels of maturity, partly depending on how long each region had been in Asset Delivery and the maturity of their pavement renewal programmes.

ORR assessment

8.45   NH, represented by the East region noted that for the first time this year, there was a central steer to advance pavement renewals schemes to try and meet the KPI after it appeared to be off track. The Executive/NPO issued a request in Autumn 2023 for Operations regions to offer additional schemes to affect KPI3. The East region offered to accelerate four extra schemes, but stated that not every region had a sufficiently mature pavement renewals programme to offer additional schemes. Having multiple regions with immature pavement renewal programmes is a significant limitation on NH's ability to correct performance.

8.46   It is unclear why there was not a top-down intervention in previous years when the KPI appeared off track, and why learning on corrective actions has taken several years to apply.

8.47   The evidence provided highlighted corrective actions to ensure all planned renewals were delivered and to prioritise delivery of renewals impacting the KPI. However, similar KPI3 performance outturns happened again this year, showing the prioritisation wasn't adequate. Additionally, the company explained that the corrective actions employed were not efficient or wholly aligned to its asset management cost in terms of whole-life cost.

Evidence

- Interview

- NHCI 84 RE_ 612411 - A5 SB Portway to Kellys Kitchen - Portway entry slip wrong stone TSCS.msg

- NHCI 228 PC6 & PC7 - Pavement KPI 23_24 (1).pdf

- NHCI 230 PC8 & PC18 - 618810 A14 EB & WB J35 - J36 Resurfacing SDF.xlsx

- NHCI 231 PC8 & PC18 - 616354 M11 NB SB J7-J8 resurf Pk5.26.xlsx

- NHCI 233 PC8 & PC18 - 612235 A1 Langfrd-BiggsNrbt resurf & A1M-Langfd Mkg Pk4.1.xlsx

- NHCI 304 PC19 - Heads of P&D - Dec 2022.pdf

- NHCI 305 PC19 - Heads of PABs - Jan 2023.pdf

- NHCI 306 PC19 - KPI 2023-24 Q3 Review Group.pdf

- NHCI 307 PC19 - KPI 3.1 QBR - July 2023.pdf

- NHCI 308 PC19 - Weekly Pavement KPI Performance Update 03.05.23.xlsx

6: Learn lessons

Interview note

8.48   ORR asked how NH learns and captures lessons. NH noted that there were systems within the project management tools to capture learnings from schemes. NH has developed a better understanding of where the high-risk areas are within the region, how surveys are impacting on the KPI, and regions are getting access to data more frequently. More broadly, discussions at the internal Tier 2 and Tier 3 asset meetings are a good forum to share learnings, and NH's knowledge of the network has greatly improved through the Asset Delivery programme in-housing expertise.

8.49   ORR asked if NH could provide any evidence of lessons being learnt through those Tier 2 and Tier 3 meetings – e.g. any lesson learnt registers.

8.50   ORR noted that there was a 2022-23 lesson learnt session held June 20 2023, which ORR attended. ORR asked for this to be included in the evidence.

8.51   ORR asked how regions fed into that session – NH explained that regional teams would have fed into the NPO in advance who represented NH at the session.

8.52   ORR asked if NH had looked at the findings from last year's (2022-23) lesson learnt? The East region NH representatives were not explicitly aware of the lessons learned document but thought that the content had been disseminated separately via the NPO. NH suggested that, if it did, it might find that it had delivered 75% of the actions associated with the 2022-23 lessons learned, but

need to think about what the actual impact would be on the KPI. Even if all interventions were delivered, it's not clear that the KPI would have been achieved, and going forward NH noted the role that ORR played in setting out the evidence for funding needs, and that ultimately more resources are required.

8.53   NH noted that there was also a QBR session with the Executive last July 2023 which looked at pavement condition – ORR asked if this could be provided.

ORR assessment

8.54   NH cited the Tier 2 and 3 meetings as a forum for sharing lessons learnt, and noted there was a focused QBR session on pavement in July 2023. With no apparent QBR meetings since on pavement and so there is no evidence of ongoing discussions being held on lessons learnt.

8.55   However, no-one from NH in the interview was aware of the 2022-23 lessons learnt session last year, suggesting information is not disseminated as effectively as it should be, a major weakness in how NH is able to embed lessons learned.

8.56   More broadly, we see similar issues every year that the company is not confident it will achieve or that it continues to forecast to miss its KPI. This suggests that NH is ineffective in learning lessons. In particular in its understanding of the cause of the dip in forecasts that then seems to self-correct without intervention. NH has commissioned further research on pavement deterioration.

Evidence

- Interview

- Pre-interview slide pack

- NHCI 85 Benchmarking National Highways_ regional dashboards 2022 to 2023.pdf

- NHCI 86 616354 M11 NB SB J7-J8 Resurf Email ref KPI3 tracking.msg

- NHCI 87 Asset Needs Tier 2 Actions 2022-2024 ref KPI3 Feb 2024

- NHCI 88 benchmarking-national-highways-road-surface-condition-2023_0.pdf

- NHCI 89 Delivery Programme shows KPI3 opportunities top of list Nov23.msg

- NHCI 90 HE612391-Sample Lessons Learned Log

- NHCI 91 Pavement Programme includes KPI 3 contribution

- NHCI 92 PMO Programme includes KPI 3 contribution

- NHCI 93 KPI3_Analysis_20240211.01

- NHCI 94 RE_ Asset Needs Tier 2 Meeting - KPI3 on Agenda February 2024.msg

- NHCI 232 PC10: 13 Pav T3 Minutes Jul 23 (extract).pdf

- NHCI 234 PC10: KPI3 Forecast and Challenges 23_24 Presentation.pdf

- NHCI 237 PC10: OPR (January 2024) - Pavement Deep Dive Slides.pptx

- NHCI 313 PC11: KPI 3.1 21_22 Lessons Learned.pptx

- NHCI 228 PC12 - Pavement KPI 23_24 (1).pdf

- NHCI 281 PC17 - FUTRAN Compensation Event Notification T0097_Signed

- NHCI 282 PC17 - Det rates review task - meeting Feb 23

- NHCI 283 PC17 - Det rates review task - meeting May 23

- NHCI 284 PC17 - Det rates review task - meeting Jul 23

- NHCI 285 PC17 - HE Climate Resilience - phase 1 (2021)

- NHCI 286 PC17 - NH Climate Resilience - phase 2 (2022)

- NHCI 307 PC19 - KPI 3.1 QBR - July 2023.pdf

7: Update approach

Interview note

8.57   NH noted several ways in which it had updated its approach, for instance using data more frequently and getting more of a real time view of how the KPI is behaving. Inspections are better informed, and it is better able to understand safety risks. NH has also changed the balance in its plans between preferred and reserve schemes. The initial plans focussed more on preferred schemes but now have a larger balance of reserve schemes which can be targeted at the red KPI3 lengths of pavement.

8.58   ORR asked if there was a cost to delivering more reserve schemes – NH noted that reserve schemes may typically be around half the cost but are not as cost effective as delivering the preferred scheme as the underlying asset life is not extended as much. There are cost and asset management implications to chasing KPI3.

8.59   ORR asked if changes in those trade-offs had been widely communicated, and who was accountable for making those trade-offs. NH did not see this as being a large shift but more of a marginal change in approach. Regions would make those trade-offs, but there is more top-down pressure on the KPI now, as this is the first year it is likely to not be achieved. However, NH noted it needs to be careful not to 'move the dial' so far, that other priorities are neglected.

8.60   ORR asked if the impact of the changed approach were quantified at all. NH explained that each scheme has an expected KPI impact, and that the NPO looks at snapshots of regional plans to challenge whether there are too many/few interventions planned.

8.61   ORR asked if NH thought the KPI3 metric was the right one and if it drove the right behaviours. NH noted that safety, performance and customer experience objectives were never perfectly aligned with the KPI, and that chasing the KPI3 could create some anomalies. However it might be better to evolve and mature the KPI3 rather than trying something radically different. ORR noted that the links between funding, the programme and the KPI could sometimes appear unclear – and yet NH was still advocating for the same KPI3 metric and target for RIS3.

8.62   ORR asked whether the region's funding would be increased in response to additional lane km coming from enhancement schemes such as the A428 and A14. NH noted that these new enhancement schemes shouldn't require intervention in the first five years, so not immediately. But the link to enhancement schemes is important, for instance the revised M1 Smart Motorway scheme didn't include resurfacing, requiring the region to resurface two additional lanes from its renewals budget that it had not originally programme to deliver.

ORR assessment

8.63   NH stated that it has shifted its approach during RP2 to have a greater focus on impacting KPI3, and a shift to more reserve schemes at worse efficacy rather than preferred schemes. However, it was not clear from the interview who or how this decision had been made. It was also not clear how successful any updates to the approach had been because the metric has repeatedly been at risk.

8.64   More broadly, despite raising several concerns regarding the KPI and the incentives it drives, NH is not proposing any change to the KPI for RIS3 – preferring to evolve the current approach. Conversely there are equally no plans to alter the imperatives, realised by standards or the asset management policy, so NH does not seem to be proactively updating its approach to mitigate this ideological clash between compliance with its imperatives and achieving the KPI's performance level.

8.65   SES have started analysis of 'Amber sections' where the pavement is expected to impact the KPI in future years, but this is limited and was only started in February 2024, so little is known of the impact of this analysis. Deterioration rates used in the forecast model have also been updated for 2024-25.

Evidence

- Interview

- NHCI 95 CDMT Extract Showing Skipping Stage 2

- NHCI 96 Extract of scheme scope 1.pdf

- NHCI 97 Extract of scheme scope 2.pdf

- NHCI 98 KPI Red Data Extract.pdf

- NHCI 99 Pavement Programme includes KPI 3 contribution (1)

- NHCI 100 PMO Programme includes KPI 3 contribution (1)

- NHCI 101 Route Report Extract.pdf

- NHCI 102 RRP0842R A14 EB J36 to J38 resurf Project details R

Note of interview (second session)

8.66   The first interview was with representatives from the Operations directorate. During the course of that interview it became apparent that there were gaps in the evidence provided to ORR covering the knowledge and/or accountability for certain aspects of the delivery and management of NH's KPI3 performance, for example the deterioration modelling. Because of that we requested and received a second interview with representatives from SES.

Q1: How does NH secure line of sight between the SES model/forecast/target and regions' renewal plans, in both funding and outputs?

8.67   NH explained that it manages the network in line with its Asset Management Policy and Strategy and Technical Standards. The Technical Standards defines a range of parameters around pavement condition – the KPI only measures a sub-set of these parameters.

8.68   The PIT model contains a range of parameters (not just the KPI parameters) and helps inform NH's investment bids. Using the PIT, NH can define the quantum of work required to achieve a given pavement condition (e.g. steady state as per the current Roads Period, or model other scenarios). The model helped informed the RIS2 target, and NH is cognisant of the importance of this as a KPI and target.

8.69   The PIT also allows NH to model how the KPI is performing in year from a more tactical perspective. The model combines information on asset condition, renewals delivered, and modelled deterioration to forecast pavement condition at year-end, and up to three years ahead.

8.70   This allows NH to forecast which parts of the network will fall below the parameters set in the Technical Standards in the future. Current failures are flagged as 'red' on the system.

8.71   As a new addition, since February 2024 NH also marks sections which are forecast to fall below standard in the near future as 'amber'. The tool also differentiates between what has caused a section to go below threshold, which helps inform the most appropriate response. This reflected lessons learnt to make it easier for Operations to prioritise. It was unclear why NH did not proactively share detail of this development work as part of business as usual activities or earlier in the investigation, given the difficulty it has had with KPI3. ORR asked for more detail about the amber ranking system, and how this is used by the business.

8.72   ORR asked how this information is provided to Operations. NH explained that the analysis is refreshed monthly, and the data uploaded to the Pavement Asset Management System (P-AMS), so is immediately available for Operations colleagues. The tool allows NH to be proactive in managing the KPI, as it shows Operations where interventions are required to meet the KPI. Operations can consider this alongside other factors in their planning.

8.73   Once Operations have developed their programme, SES validates what the KPI impact will be to produce a year-end forecast. This is then monitored throughout the year – giving line of sight between the model, the forecast, and the renewals plan.

8.74   ORR asked what happens if the regional plans in aggregate are insufficient to achieve the forecast KPI target. NH explained that SES would flag this to the National Programme Office (NPO) centrally, and the NPO would then communicate that to regions and/or upwards to Executive. This reflects the split accountabilities for KPI3 within NH. SES is responsible for monitoring and reporting the KPI, and for carrying out the annual surveys but Operations is accountable for delivering the KPI as the main lever is the pavement renewals programme.

Q2: How does SES check and monitor delivery of KPI3 throughout the year?

8.75   NH explained that there is monthly reporting on KPI3 as part of the Corporate Performance Reporting pack (which is also shared with ORR). Operations provides an up-to-date renewals programme each month to allow monitoring of delivery and the proportion of works addressing sections which fail the KPI parameters.

8.76   SES also monitors progress of the pavement condition surveys. For the KPI, only validated and assured data on the P-AMS counts towards the KPI. So a scheme may deliver on the ground, but the KPI impact is only incorporated once all the data is validated. NH allows a month after scheme completion for data to be uploaded, to allow for quality control. SES monitors this.

8.77   ORR asked about the experience of the last two years, particularly 2022-23 where the KPI forecast significantly dipped midway through the year.

8.78   NH explained that the driver in 2022-23 was unexpectedly high deterioration. NH has data for the past ten years, and its models are based on the three most recent years of data. However, in 2022-23 NH saw that the actual rate of deterioration was exceptionally high compared to historic average, particularly skidding. NH believes this is linked to the high temperatures which create dry and dusty road conditions which increase skidding – but NH is carrying out research to validate this. ORR asked NH to provide the commissioning documents for this research, and any outputs to date.

8.79   NH explained that it carries out SCRIM surveys in three early, mid, and late 'summer seasons' each year, because skidding varies based on the time of the year. Each year which sections get surveyed varies, meaning that there is a three-year cycle for SCRIM surveys. Based on the last two years, it looks like there may now be steeper deterioration rates – but NH need the third data points to confirm.

8.80   In 2022-23 therefore, because of its dynamic monitoring NH was able observe the high deterioration rates during the year and flag the heightened risk of missing the KPI to Operations.

8.81   For 2023-24, NH then had to make a decision about whether to treat the 2022-23 deterioration rates as an anomaly compared to the three years of recent data that would otherwise feed the model, or the start of a new trend of increased deterioration. SES provided the analysis to support this decision, but Operations ultimately had to decide how to factor this information about the risk of heightened deterioration into their planning. NH choose to treat it as an anomaly and not radically alter its plans until further data was available.

8.82   ORR asked about this decision-making process. NH noted that the PIT enables it to look at different scenarios. Ultimately, NH decided to use the historic deterioration rates in its planning assumptions. If it had used the 2022-23 rates, then NH would have had to over programme renewals. This was an example of how the modelling and forecasting feeds into planning decisions. Subsequently, 2023-24 deterioration rates are aligned to 2022-23 rates and still above the historic trends.

8.83   ORR asked about the timing of when survey data comes through. NH explained that there is an annual programme – for instance skidding surveys are caried out in summer because that is when skidding is at its worst. Every year, the surveys run from May-September, which means that survey data starts getting uploaded to P-AMS between August and December/January. Although the KPI forecast is updated each month to take account of expected deterioration, but any measured variation in the year would typically lead to changes in the forecast in Q3/4 when the survey data is uploaded.

8.84   However, NH does not wait for all the data to come in and if trends start to emerge from early data blocks, SES will be communicating this to Operations (e.g. through the Tier 3 meetings or through Asset Needs Managers Meetings). NH noted that evidence around this had been shared as part of the pavement letter sent in March 2024.

8.85   ORR asked about how skidding is treated. NH explained that there are different intervention levels and also a range of different intervention options – while re-surfacing may be the most common option, re-texturing can sometimes be more appropriate, or putting up warning signs (which does not affect the KPI but is permitted as a holding mitigation in the standards). Guidance around this is set out in the DMRB and for regions to implement.

Q3: What role does SES play in the lessons learnt process?

8.86   NH explained that lessons learnt is a continuous process. NH has a quarterly meeting bringing together SES, NPO, Customer Strategy and Communications colleagues to give an overview of how the KPI has moved each quarter. ORR asked for evidence of these meetings. There is also an end of year report each June.

8.87   ORR asked about how lessons learnt from the joint ORR-NH June 2023 session had been implemented, noting that the participants in the first interview told us that they were not aware of these. NH explained that operations colleagues would have been involved indirectly through the NPO.

8.88   Within SES, several actions had been taken forward – for instance SES had introduced a dashboard to improve visibility of when survey data would be received and introduced visualisations of survey data age. Other changes included the amber analysis described previously. The P-AMS was only introduced last year, and some automated elements of the system have not been implemented yet (e.g. automatic forecasts of the KPI).

8.89   ORR asked what role SES plays in learning lessons around treatment, and who owns the DMRB. NH explained that the Asset Management Strategy is jointly owned by Operations, Major Projects and SES, and is due to be updated next year. NH captures feedback through the Tier 3 meetings, and from the supply chain for Major Projects. There will be a consultative process before updating standards. For instance, there is currently a big focus on whole life carbon and trying to make the asset more durable.

8.90   NH explained that it is also looking at potentially changing its approach to surveying. Whilst the current surveys produce very high quality and reliable data, they only take place annually. In the future, if there are millions of lower quality sensors on cars and trucks, it might be possible to get more real-time data. But that is a long way away, and there are potential issues around data ownership.

8.91   ORR asked about how the KPI aligns with DMRB. NH explained these are aligned, although the KPI has some simplifications and is only a subset of the parameters (e.g. some important parameters like cracking are not included). However, NH believe the KPI is aligned to technical requirements and what is important to road users' safety, e.g. skidding. But there are other factors and parameters that Operations have to consider that are not in the KPI.

8.92   ORR explained that in the first interview, the East region had explained only c. 8% of renewals lengths addressed the KPI. NH explained that this is because it has to renew in lengths and cannot deliver small lengths to specifically address KPI failures.

8.93   ORR noted that the East region had said it did not 'chase' the KPI. NH explained that ultimately the purpose of the work is to address issues where condition has dropped below the thresholds in the standards, and that in turn means addressing KPI3 failures. There will be some sections which have failed parameters within the standards that are not captured within KPI3 – NH still has to address these. Operations have to balance a range of different factors.

Q4: How has SES changed its approach to improve the accuracy and reliability of its forecasting?

8.94   ORR asked about how robust NH believes its forecasting is. NH stated that it believes the forecast is good overall – it is based on a robust modelling approach and informed by lots of historic data. Historically the forecasts have been very accurate. 2022-23 was something of an anomaly, as deterioration rates exceeded historical averages.

8.95   Now that NH has the 2023-24 data, it can see that this is between the 2022-23 rates and the historic averages, so can factor that into deterioration rates for 2024-25 and going forwards. But if it had based 2023-24 deterioration on the 2022-23 rates it would have over-programmed pavement renewals. Overall though, the model accurately forecast 70% of the eventual failures seen on the network.

Other questions

8.96   ORR asked about whether SES had looked at how the standards inform the physical depth of interventions during renewals. NH explained that in developing the DMRB, SES takes feedback from Operations. There is a central efficiency register recorded by the regions, and SES assures that efficiencies are genuine. There is an industry group called Pavement Optimisation Group with membership from Lean team, SES, Operations, and the Supply Chain.

8.97   ORR asked how NH was addressing climate resilience. NH explained that it has a licence condition around this and a resilience register. It has recently identified two areas requiring further work – compression failures in concrete, and how to address greater surface forces on roads due to climate change and heavier vehicles.

Relevant evidence

8.98   Annex F contains a detailed list of all evidence gathered for this area of interest.

Key conclusions

8.99   National Highways told us that it had taken a decision not to "chase" KPI3 for 2023-24. It could not provide evidence for this claim or decision. The company was unable to evidence the basis on which it traded-off between compliance with its asset management policy, delivering pavement renewals in a whole-life cost efficient way, and achieving the national KPI target.

8.100   National Highways' ability to learn lessons on how to ensure it achieves its pavement condition KPI is unclear. For the last two years the company struggled to evidence in-year whether it will achieve its target. For 2023-24, it shared information that identified that the programme was at risk based on recent trends in deterioration rates. However, the company did not account for this in its programme or appear to put in place additional check points during delivery.

8.101   National Highways was unable to provide evidence that each regional plan for pavement renewals is intended to help achieve the national target as agreed at the outset of RIS2.

8.102   National Highways has not shared information that previously would have benefited our role in relation to monitoring pavement condition. In particular:

● National Highways had internal discussions on the pavement KPI and an action plan in both 2022-23 and 2023-24. These actions were not shared with ORR at the time of escalating the concern internally, but they were shared with us as part of the investigation evidence; and

● during the investigation, National Highways shared a new approach to assessing pavement condition in its regions (amber analysis). We had not been sighted on this previously or received this as evidence in the first interview we held on pavement condition;

it is unknown why National Highways did not proactively offer this information; particularly given the level of concern we had and continue to have about the delivery of this target and the additional correspondence previously sent to the company.

8.103　National Highways has an established model to forecast deterioration of the road surface and identify what the KPI need is, called PIT (pavement investment tool). However, the company does not use this to determine its renewals programme. The company instead uses plans developed by its regions that we are told are in line with the asset management policy. The regional plans are not initially checked to determine if they will achieve the KPI. Instead, the company reacts to poor KPI performance once surveys have been uploaded to its asset management system at Q2 each year and alters its regional delivery plans and therefore its renewals programme.

8.104　During our interviews with the company, it provided evidence that it made a conscious decision not to focus on achieving the KPI. The company continues to choose to develop its annual pavement renewals programme not to target achieving the KPI. It uses a reactive approach to correct, but it has been unable to evidence that this is an effective use of funding or the impacts on users. In addition, the company has not proposed any changes to its KPI methodology or updated its asset management policy to align with the KPI commitment within the RIS. Both actions are within its control.

8.105　There are different teams within National Highways that are integral to pavement condition performance. SES set the standards and report on the KPI; the NPO oversees the national performance and reports both up to the company's Board and to regional leads. There is evidence of misalignment between the objectives of each group that does not allow for efficient programme development and prioritisation to meet all commitments.

8.106　National Highways evidenced that it knew that it might miss its pavement condition KPI in 2022-23 and 2023-24 before it notified ORR.

8.107　National Highways evidenced in the second interview its new approach to deterioration modelling (amber modelling). It was unclear why such a key development that went operational in February 2024 was not mentioned previously during its development etc., given the importance or the work and the issues that the company has had with KPI3.

9. Overall assessment, conclusions and case to answer

Summary of assessment

9.1 Figure 9.1 shows a heatmap of how we evaluated National Highways across the targeted sample of six areas of interest against the aspects of the planning and delivery cycle (figure 2.1).

Figure 9.1   Evaluation of National Highways performance across the planning and delivery cycle: targeted sample of areas of interest

Area of interest	Identify need	Develop plan	Implement plan	Check	Correct	Learn lessons	Update approach
Designated funds	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence
Missed enhancements commitments	Elements of strong evidence	Partial evidence	Elements of strong evidence	Elements of strong evidence	Elements of strong evidence	Partial evidence	Partial evidence
Asset management (strategy)	Elements of strong evidence	Elements of strong evidence	Partial evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence
Asset management (renewals)	Elements of strong evidence	Elements of strong evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence	Partial evidence
Average delay KPI	Elements of strong evidence	Partial evidence	Elements of strong evidence	Partial evidence	Partial evidence	Partial evidence	Little or ineffective evidence
Pavement condition KPI	Partial evidence	Partial evidence	Partial evidence	Partial evidence	Little or ineffective evidence	Little or ineffective evidence	Little or ineffective evidence

High level conclusions

9.2 Table 9.1 shows our high level conclusions, based on our assessment of the evidence provided across the targeted sample of six areas of interest, balancing performance across the piece.

Table 9.1 High level conclusions on the stages of the planning and delivery cycle

Stage of the cycle	Overall conclusions
Identify need	National Highways is generally good at identifying need.
Develop plan	National Highways is generally good at developing appropriate strategies and plans intended to help it fulfil its statutory duties under its licence, though compatibility with what it must deliver under the RIS is not always evident.
Implement plan	National Highways is not always able to translate its strategies or plans into actions and to implement them effectively to realise benefits and deliver its statutory commitments. Evidence shows that this disconnect is driven in part by a disparity between planning and delivery – particularly with regards to the performance specification. When activities are not aligned to delivering strategies or plans (such as with the pavement condition KPI) this results in outcomes that are at variance with statutory obligations that have to be either accepted or ameliorated. This has resulted in unintended consequences.
Check Correct	National Highways told us about processes for checking, challenging and correcting its work across multiple areas. However, it provided limited evidence to support this or demonstrate how these processes directly inform its approach to delivering its statutory outputs or how it was evidencing and recording the consequences of decisions made. National Highways is aware that it must and does have processes in place to check what it is doing, challenge itself and correct where necessary. However, it appears to be predominately about following the process and not necessarily implementing change to achieve a stated outcome.
Learn lessons	National Highways appears to be good at specific, small-scale learnings, but has limitations in evidencing learnings on a strategic level and the benefits of wider improvements and implementation.
Update approach	We saw limited evidence that National Highways is learning lessons across the longer term and updating its approach to deliver outcomes to prevent recurrence, in particular regarding active learning and making improvements to its approach to deliver its performance specification. National Highways has been unable to evidence or explain recurrences of similar issues across road periods and years, particularly in the delivery of its performance specification.

Stage of the cycle	Overall conclusions
	National Highways does not appear to be proactive in addressing recurring or systemic problems. The evidence shows that in some areas it is now putting new processes in place to improve learnings and outcomes, but it did not explain why it had not done so earlier.

9.3   In the course of our investigation two key thematic areas emerged, based on the evidence gathered, where we have drawn conclusions. These relate directly to the achievement of National Highways' statutory duties and compliance with its licence. These were:

- organisational issues and capability, particularly around processes and decision-making; and

- data, information, and transparency.

9.4   Table 9.2 shows our high level conclusions, based on our assessment of the evidence provided across the targeted sample of six areas of interest, balancing performance across the piece.

Table 9.2   High level conclusions on thematic areas identified during the investigation

Thematic area	Overall conclusions
Organisational issues and capability	Across the areas we looked at, National Highways shared limited evidence that it consistently acts in a manner that we might reasonably interpret as 'it considers best calculated' to exercise its functions and comply with its legal duties and other obligations. In some cases, it could not show us that it is taking decisions based on clear and robust evidence, appropriately recording, and acting on those decisions, balancing competing priorities and considering their full implications.
Data, information, and transparency	The balance of the evidence shows that National Highways holds data and information that it has not shared with ORR where it is directly relevant to our statutory role.
	There are examples of National Highways not proactively analysing data or being able to evidence taking effective actions on the basis of analysis undertaken.
	National Highways does not seem to hold or be able to access the right data to support its statutory role. It needs to mature as a data manager, understand and be able to communicate/share what information it needs to take the right decisions. It should have the

Thematic area	Overall conclusions
	right checks and balances in place to ensure that it reports the right data and information.
	National Highways apparent concerns about sharing data and information restricts its ability to show how it is performing its function and results in more work for the company and for ORR.
	The constructive way that the Performance and Regulatory Compliance team has worked during this investigation should be a model going forwards. We would like to see the team pivot from being largely a mediator of information, to becoming a facilitator of discussions and evidence gathering between ORR and the business as it did during the investigation. Paragraph 5.12 of our holding to account policy makes this expectation clear.

Case to answer

9.5   As set out in our investigation initiation letter (paragraph 2.9) this investigation was intended to look at National Highways' compliance with the road investment strategy (RIS) and its licence. We highlighted licence conditions in that letter where we thought we might gather evidence of compliance or not.

9.6   Subject to considering any further representations from National Highways, our preliminary view set out in the case to answer letter sent to the company on 22 May 2024, was that it had contravened, or is contravening, its licence, primarily:

- condition 4.2(a), (b) and (c) on exercising functions and complying with legal duties, and condition 5.6(b) (leading on from 4.2(c)); and

- condition 7.3(e) of the licence on the provision of data and information to ORR that we may reasonably require, where relevant to the fulfilment of our statutory functions.

9.7   We consider there is evidence to suggest a past and/or current contravention in the two areas as set out below. **The evidence to support our view is set out in the 'key conclusions' sections of chapters 3 to 8, above, and in our case to answer letter, published with this document**.

Condition 4.2(a), (b) and (c) on exercising functions and complying with legal duties, and condition 5.6(b) (leading on from 4.2(c))

9.8   It is a reasonable interpretation of these conditions that if National Highways is to "act in a manner which it considers best calculated", and have a "clear understanding of the pressures upon and impacts of" its network and "be aware of

the actions needed to improve conditions for users, and manage or mitigate existing problems", the company should be able to demonstrate that:

- its decisions are logical and reasonable and enable National Highways to carry out its functions and to deliver the specified outcomes to which it has committed;

- it is taking decisions based on clear and robust evidence, appropriately recording, and acting on those decisions and considering their full implications on users and network performance (5.6(b)); and

- its decision making is effectively joined up across the business, to maximise effectiveness and efficiency.

9.9 National Highways has not been able to demonstrate consistently and reasonably, with evidence, the basis upon which it has taken decisions and the consequences of doing so on users and network performance.

9.10 Where National Highways cannot demonstrate, with evidence, how decisions have been and are being made to achieve its KPIs and comply with its licence obligations, it is difficult to see how it can have undertaken a reasonable consideration of what is "best calculated" in its actions. It is not ORR's role to determine the best calculated method – this is a matter for the company – but in our statutory role monitoring the company's compliance with its licence, we must consider whether it has acted properly in its considerations (including of any alternatives identified).

Condition 7.3(e) of the licence on the provision of data and information to ORR that we may reasonably require, where relevant to the fulfilment of our statutory functions.

9.11 National Highways must collect, record and provide data or information to enable ORR to fulfil its statutory duties. During the investigation we identified instances where the company held material that it could, and should, have shared with ORR sooner, or where it told us it did not hold data or information that we needed to effectively carry out our statutory functions (and that we consider that the company should reasonably have held in order to carry out its own statutory functions).

9.12 National Highways provided around 300 pieces of information to us as part of the investigation. This included information that had not been previously provided to us. While we would not have expected to see all this information as part of our

business as usual or enhanced monitoring, there was enough across six areas of concern to indicate that there is more information that the company could and should share with us.

Annex A: Evidence received: designated funds

Table A.1 details the reference number and titles of evidence provided to support the designated funds case study.

Evidence to support designated funds case study

Reference	Title
NHCI 2	Designated Funds & Corporate Carbon KPI - Evidence - Final Deck for ORR
NHCI 21	Designated Funds plans 2020-2025
NHCI 29	Review of Designated Funds from 2015-2020
NHCI 30	CR - Grid Key Change of Spending Profile
NHCI 31	Designated Funds Investment Decision Committee (IDC) Terms of Reference
NHCI 32	Guildford to Godalming Greenway - IDC minutes (Feb 24).pdf
NHCI 33	Efficiency Review RFI 051 - RIS3 National Highways Draft SBP ORR Query
NHCI 34	Draft Strategic Business Plan
NHCI 35	LED National Reporting - January
NHCI 36	National LED Upgrade Regional Copies of Monthly Reports Jan 24.zip
NHCI 115	SES DF Feb 24 (Jan P10 reporting)
NHCI 116	DF Performance Pack 2023-24 P9
NHCI 198	Designated Funds & Corporate Carbon - Further Post Interview Questions.docx
NHCI 199	MP Designated Funds Grant Webinar V3.0.pptx
NHCI 200	DF Overarching MEP v5 - Complete.pptx
NHCI 201	Q3 Biodiversity and Noise Update.pptx

Reference	Title
NHCI 288	Des Funds and National Programme Slides - 22 Feb
NHCI 289	DF Approvals Breakdown (P9 202324).pptx
NHCI 290	DF Change Request Form Version 3.00.docx
NHCI 291	DF Lesson learned slide.pptx
NHCI 292	DF_Handbook_(2.00).pdf
NHCI 293	DFIDC 230303 Meeting Summary - Extract for LED Upgrade Programme.docx
NHCI 294	Guildford to Godalming Project Summary Form.docx
NHCI 295	LED IDC Investment Submission.docx
NHCI 296	LED Lighting Project Summary Form.docx
NHCI 297	LED Upgrade Programme FBC v1.0.pdf
NHCI 298	ORR Investigation - DF & Carbon Post Interview Questions and Evidence Request.docx
NHCI 299	Project Summary Form Template.docx

Annex B: Evidence received: missed enhancements commitments

B.1   Table B.1 details the reference number and titles of evidence provided to support the missed enhancement commitments case study.

Table B.1   Evidence to support missed enhancement commitments case study

Reference	Title
NHCI 39	ORR investigation of National Highways Licence Compliance and Delivery Spring 2024 (Arundel)
NHCI 114	ORR Investigation - Missed Commitments - NH Response
NHCI 117	01- RIS2 Overview
NHCI 118	02 - RIP South - Programme Committee Agenda - January '24 - v1.0.pptx
NHCI 119	02 - Performance - RIP North Programme Committee March 24 - Agenda.pptx
NHCI 120	Gold Standard - NH Project Procurement Plan (PPP) Assessment Criteria Guidance Document - Feb 2024.docx
NHCI 121	Gold Standard - NH Gold Standard - Strategic Supplier Procurement Plan (SSPP) Assessment Criteria - Oct 2023 Final.docx
NHCI 122	Gold Standard - MP Webinar - Gold Standard SSPP & PPP Intro Dec 2023.pptx
NHCI 123	Contract Management - MP-C&P - Interface Meeting - Terms of Reference v1.docx
NHCI 124	10 - Design Management - DEP - MPPR Celebrating Success Presentation File.pptx
NHCI 125	11- Design Management - 231105 Design Mgt Improvement - Ppal Designers.pptx
NHCI 126	09 - Design Management - Budget Led Design - 2020.11.24_CIPProgrammeCommittee_Presentation.pptx

Reference	Title
NHCI 127	08 - Jacobs Study - Overview - 20240108 Tier 1 consultancy review.pptx
NHCI 128	07 - Lessons Learnt - March 2024 webinar to launch new tools.pptx
NHCI 129	06 - Performance - Collaborative_Performance_Framework_Manual version 1.0 June 2022.xlsx
NHCI 130	08 - Jacobs Study - National Highways Portfolio Cost Study - Final Report - Updated.pdf
NHCI 131	03 - Performance - Major Projects Performance Review - MPPR Feb 24 - Agenda.pptx
NHCI 132	SMP Programme Committee February 24 - Agenda.pptx
NHCI 133	Screenshots of NH Investment Decisions SharePoint Page.docx
NHCI 134	Screenshots - CPF Intranet Page.docx
NHCI 135	Screenshots of Budget Led Design Sharepoint.docx
NHCI 136	Productivity - SMA Supplier Network Conference IR.pptx
NHCI 137	Productivity - DRAFT Curzon-NH-RIS2 Productivity Improvement Plan March '24 v0.4.pdf
NHCI 138	Gold Standard - SSPP 2023 - Initial Results (Supplier Names Redacted).xlsx
NHCI 139	Productivity - RIP Webinar v2 - 13.03.24 - Update.pptx
NHCI 140	Asset Management Transformation Plane case study
NHCI 249	ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx
NHCI 250	ORR Investigation - Missed Enhancement Commitments Post Interview Questions and Evidence Request.docx
NHCI 251	MEC01 - Reporting Levels Summary.pptx
NHCI 252	MEC01 - Investment Decision - Levels.docx
NHCI 253	MEC02 - CP010 - MP - Major Projects Cost Estimation Manual_v3.4.pdf

Office of Rail and Road | ORR investigation into National Highways' compliance with its licence and delivery of the second road investment strategy (RIS2)

Reference	Title
NHCI 254	MEC02 - CPM_Baseline_Management_Policy.pdf
NHCI 255	MEC02 - CPM_Central_Risk_Reserve_Management_Policy.pdf
NHCI 256	MEC03 - Performance - RIP South - Programme Committee Performance Report - January '24 - v1.0.pdf
NHCI 257	MEC04 - MPPR Mar 24.pdf
NHCI 258	MEC06 - Major Projects Management Plan FY2023-24.xlsx
NHCI 259	MEC07 & MEC8 - RIP Webinar v2 - 13.03.24 - Update.pptx
NHCI 260	MEC07 & MEC8 - 2023-07-26 MP IDC Paper (XX) Innovation Reapplied.docx
NHCI 261	MEC07 & MEC8 - IR Efficiencies profile - March 2024.pptx
NHCI 262	MEC09 - Programme Webinar - 2024 Schedule.docx
NHCI 263	MEC10 - MPI_92_042021_Collaborative_Planning_Minimum_Standards.pdf
NHCI 264	MEC12 & MEC13 - Major Projects Change Authority (28th February 2024).pptx
NHCI 265	MEC12 & MEC13 - MPCA Action tracker.xlsx
NHCI 266	MEC14 - NEAR slide pack.pptx
NHCI 267	MEC14 - SMP Update Feb 24.pptx
NHCI 268	MEC14 - Final Q&A for new Learning from Lessons approach.docx
NHCI 269	MEC15 - Pilot log v final log.pptx
NHCI 273	ORR Investigation - Missed Enhancement Commitments - Further Post Interview Questions
NHCI 274	MEC17 - Project Control Framework - The Handbook Version 5.0
NHCI 275	MEC17 - PCF_Newsletter_No_61_-_August_2019_
NHCI 276	MEC17 - PCF Newsletter 85 - August 2022 version 2
NHCI 277	MEC18 - MP Change Plan Summary

Reference	Title
NHCI 278	MEC19 - DAP Principles and Time impacts

Annex C: Evidence received: asset management (strategy)

C.1   Table C.1 details the reference number and titles of evidence provided to support the asset management (strategy) case study.

Table C.1   Evidence to support asset management (strategy) case study

Reference	Title
NHCI 3	1. 23-595 National Highways ISO 55001 Closure Progress Report (2)
NHCI 4	NH Strategic Asset Management Plan
NHCI 5	ORR AM update - 28 November
NHCI 6	BED22_0003-Asset-Management-Systems-Strategy_published
NHCI 7	MS06-Guard-Rails-V1.5
NHCI 8	Draft Minutes - Asset Management Workshop - 28 Nov 23
NHCI 9	20240108 Asset Information - Day After Report
NHCI 10	Asset Management Transformation Programme - ORR Update - September 23
NHCI 11	Asset Information Presentation - 8 Jan.
NHCI 12	23-595 NH Preliminary Audit Report 1.1 231116
NHCI 13	Extract from Year 4 Business Requirements Sep 2023 - ORR
NHCI 14	AMTP Roadmap
NHCI 15	AMTP TMO Handbook v2.0 (2) (1)
NHCI 16	Draft Asset Management Long term Approach (1)
NHCI 17	CC300 NH Asset Management in Action 26.06.22
NHCI 18	CRR06 A Major Asset Failure on the Network Secondary Controls and Review Approach
NHCI 19	Draft Asset Management Long term Approach

Reference	Title
NHCI 20	ORR Investigation - Asset Management Transformation Plan Progress Background Information
NHCI 22	Asset Management Operating model - roles and responsibilities
NHCI 23	Application of asset management policy and approach
NHCI 24	ORR Investigation - AM Evidence Pack
NHCI 25	Asset Class Handbook survey
NHCI 27	Slot drain issues
NHCI 28	Scour
NHCI 37	Change Control User Guide
NHCI 141	AMS10 - Scour - ORR Investigation 07 03 2024.pptx
NHCI 142	AMS11 - ISO55001 Certification Audit - Timeline (draft).pptx
NHCI 143	AMS9 - Asset Class Handbook - Feedback Survey.pdf
NHCI 144	AMS6 - VRS ACS Implementation Plan Action Tracker.xlsx
NHCI 145	AMS7 - CEO Challenge Candidate Pack Final.pdf
NHCI 146	AMS7 - Early Talent- CEO Challenge.eml
NHCI 147	AMS8 - CRR06 A Major Asset Failure on the Network Secondary Controls and Review Approach.ppsx
NHCI 148	AMS4 - T0452 - Preliminary Audit Delivery Plan v1.0.pdf
NHCI 149	AMS4 - Re_ T0452 ISO55k Audit & Certification - Weekly Progress Meeting - 25 August 2023.eml
NHCI 150	AMS4 - T0452 Inception Meeting Minutes v1.0.pdf
NHCI 151	AMS4 - TO452- Proposed Interviewees for 1-2-1s.eml
NHCI 152	AMS4 - Updated meeting planner.eml
NHCI 153	AMS5 - AMC Agenda 7 December.pdf
NHCI 154	AMS5 - AMC December slidepack.pdf

Reference	Title
NHCI 155	AMS6 - ACSImplementation_VRS - Final Version.pptx
NHCI 156	AMS5 - AMC Minutes 07 December.pdf
NHCI 157	AMS3 - AMTG deck 22 February 2024 v2.pdf
NHCI 158	AMS3 - AMTG Minutes 22 February.pdf
NHCI 159	AMS4 - 23-595 NH Preliminary Audit Report 1.1 231116.pdf
NHCI 160	AMS4 - RE_ ISO55001 audit - Process Walkthroughs.eml
NHCI 161	AMS3 - AMSG ToR Updated 2022 .docx
NHCI 162	AMS3 - AMTC ToR v7.0 Jan 2024 (3).pdf
NHCI 163	AMS3 - AMTG Agenda 22 February 2024.pdf
NHCI 164	1. 23-595 National Highways ISO 55001 Closure Progress Report (2) (1).xlsx
NHCI 165	AMS1 - AMCL - National Highways Asset Management Capability Efficiency Review - Version 1.0.pdf
NHCI 166	AMS1 - Lloyds Register - Analysis of AM system against ISO55001 for Highways England.pdf
NHCI 167	ORR Investigation - AMTP Post Interview Questions.docx
NHCI 205	ORR Investigation - AMTP Further Post Interview Questions.docx
NHCI 206	AMS11 - Summary of the Informed Asset Management Plan.docx

Annex D: Evidence received: asset management (renewals)

Table D.1 details the reference number and titles of evidence provided to support the asset management (renewals) case study.

Table D.1   Evidence to support asset management (renewals) case study

Reference	Title
NHCI 38	ORR Investigation - Asset Management Renewals Programme Delivery Outcomes - Background Information
NHCI 40	Terms of Reference: Programme Development Quarterly Meeting
NHCI 41	NW RPR Dashboard_v2.23 Feb OFP
NHCI 42	P&D National Meeting Structure
NHCI 43	NW ULoN (screen shot)
NHCI 44	NW ULoN map (screen shot)
NHCI 45	OD Allocations 2020-25 V14.1 Master NW
NHCI 46	5-year_Delivery_Plan_2020-2025_FINAL.pdf
NHCI 47	approach-to-asset-management_v_final.pdf
NHCI 48	NW Pavement Prioritisation Tool (screen shot)
NHCI 49	CDMT Lessons Learned - (screen shot).pdf
NHCI 50	Capital Delivery Management Tool (CDMT) - screen shot
NHCI 51	ACH Handbook - Pavement - FINAL.pdf
NHCI 52	asset-management-policy-v_final (1).pdf
NHCI 53	20210421 - PPO - Capital Programme Integration - Integrate Schemes Handbook - v1.1Shared.pdf
NHCI 54	05. Change Control User Guide (1)
NHCI 55	ORR Investigation - Asset Management Renewals Programme Delivery Outcomes - Background Information

Reference	Title
NHCI 202	AMRen02 - Operations-Target-Structure-2022-FINAL.pdf
NHCI 203	AMRen02 - Op NW Teams on a page MASTER.pptx
NHCI 204	AM Renewals - Post Interview Questions .docx
NHCI 207	20210421 - PPO - Capital Programme Integration - Integrate Schemes Handbook - v1.1Shared (1).pdf
NHCI 208	AMRen03 - Drainage Asset Needs Prioritisation Tool (screen shot).pdf
NHCI 209	AMRen03 - NW Fencing Prioritisation Tool (screen shot).pdf
NHCI 210	AMRen03 - NW Op Technology Prioritisation Tool (screen shot).pdf
NHCI 211	AMRen03 - NW VRS Prioritisation Tool (screen shot).pdf
NHCI 212	AMRen07 - Structures Community of Practice Terms of Reference.pdf
NHCI 213	AMRen09 - 3D_User_Guide_for_Scheme_Management - Ver 2.4.pdf
NHCI 214	AMRen10 - RPR Dashboard Annotated.pdf
NHCI 215	AMRen11 - Examples of No Go decisions from CDMT NW region.pdf
NHCI 216	AMRen12 - CDMT Training Guide - Stage Gate Planning Tab.pdf
NHCI 217	AMRen10 - RPR Dashboard Annotated (1).pdf
NHCI 218	AMRen10 - RPR Dashboard Annotated (2).pdf
NHCI 219	AMRen13 - NW Schemes Tracker Screenshot.docx
NHCI 220	AMRen14 - Sept 2023 Accelerated Schemes.xlsx
NHCI 221	AMRen16 - CDMT Training Guide - Lessons Learned.pdf
NHCI 222	AMRen19 - 11 VRS & Signs T3 Minutes Oct 22.pdf
NHCI 223	AMRen18 - CDMT ES Advisory Group ToR.pdf
NHCI 224	AMRen03 - Asset Needs Dashboard March 24 (002).pdf
NHCI 240	CRR06 A Major Asset Failure on the Network Secondary Controls and Review Approach.ppsx
NHCI 270	AM Renewals - Further post interview questions.docx

Annex E: Evidence received: average delay KPI

Table E.1 details the reference number and titles of evidence provided to support the average delay KPI case study.

Table E.1   Evidence to support average delay KPI case study

Reference	Title
NHCI 26	Average delay background evidence
NHCI 168	Task 0083.docx
NHCI 169	Spatial Planning_ESASUpdateBriefing_200324.pdf
NHCI 170	RE ORR Escalator Item - Average Delay - DD Briefing .msg
NHCI 171	RE November 2023 Metrics Review For Approval.msg
NHCI 172	ORR request - NH CSP23_24 initiatives - internal version with names.xlsx
NHCI 173	ORR Customer Service Update - February 2024 Final PDF.pdf
NHCI 174	Notes and links to docs for ORR Average Delay investigation Feb 2024.pdf
NHCI 175	NH_response_Crawley_Local_Plan_160623 1.pdf
NHCI 176	NH TRIP_Information for ORR.docx
NHCI 177	MPI_86_122020_60mph_Roadworks_Highest_Speed.pdf
NHCI 178	Metrics Dashboard Screenshot.jpg
NHCI 179	M25 J10 Closures and further work specification Feb24 1.pdf
NHCI 180	intranet 4.jpg
NHCI 181	intranet 3.jpg
NHCI 182	intranet 2.jpg
NHCI 183	Intranet 1.jpg

Reference	Title
NHCI 184	Implementing+the+highest+safe+speed+within+road+works+-+Hazard+assessment+guidance.pdf
NHCI 185	Implementing+the+highest+safe+speed+within+road+works+-+Guidance.pdf
NHCI 186	Implementing+the+highest+safe+speed+within+road+works+-+Case+studies+and+supporting+evidence.pdf
NHCI 187	Highest Safe Speed in road works.pdf
NHCI 188	Highest Safe Speed in Road Works - Improving the Customer Experience (1).pdf
NHCI 189	GD 904 The use of highest safe speed limits including advice on using 60mph at_through road works-web.pdf
NHCI 190	Extract from NH Board Minutes.docx
NHCI 191	Delay Workshop ideas.xlsx
NHCI 192	Delay KPI update ECSC slides.pptx
NHCI 193	Delay KPI QBR.pptx
NHCI 194	Delay Action Group - Terms of Reference.pdf
NHCI 195	Delay - Board and Exec.pptx
NHCI 196	Change control.pdf
NHCI 197	Average Delay QBR paper.pdf
NHCI 241	ORR Investigation - Average Delay - Further Post Interview Questions and Evidence Request.pdf
NHCI 242	AvD25 - Change Control for VSS Project.pdf
NHCI 243	AvD 27 - Driver Levers Impacts Viability v1.0.xlsx
NHCI 244	AvD24 - OASIS model for TRIP campaign.pdf
NHCI 245	AvD24 - Business Case - TRIP Safety Campaign 2023-4.pdf
NHCI 246	AvD24 - Logic model - Summer 2023 - V2.pptx
NHCI 247	AvD26 - Delay KPI update ECSG slides.pptx

Reference	Title
NHCI 248	AvD24 - NH_TRIP_Spring_Toolkit.pdf
NHCI 312	West Suffolk Reg 18 draft response final.pdf

Annex F: Evidence received: pavement condition KPI

Table F.1 details the reference number and titles of evidence provided to support the pavement conditions KPI case study.

Table F.1   Evidence to support pavement conditions KPI case study

Reference	Title
NHCI 1	Pavement KPI_Executive Committee_Dec23 1400
NHCI 56	3D Stage 0 - Scheme Identification.pdf
NHCI 57	OD East VCS RAG Rating v March 2023 (4)
NHCI 58	CS228 Skid Res Report.pdf
NHCI 59	Pavement Asset Needs Programme
NHCI 60	PIT_Extract_East_2023_V1.1_20240313.01.pdf
NHCI 61	Treatment Plan Sample.pdf
NHCI 62	Stakeholder Feedback NHHC_08191001567.msg
NHCI 63	HE605746-ATK-HPV-ZZ-RP-CH-000103[SCRIM]
NHCI 64	3D Stage 1 - Options Assessment.pdf
NHCI 65	CPI Bundle Opportunities
NHCI 66	Asset _Class_Handbook_Pavement.pdf
NHCI 67	3D Stage 2 - Preliminary Design.pdf
NHCI 68	Develop Plan to avoid road space clashes
NHCI 69	Investigations Spec
NHCI 70	24-03-06 NPO February meeting Programme Maturity Assessment East -2023-24 Year 4.v2.4
NHCI 71	24-03-06 NPO February East Regional Programme Review Meeting Dashboard_v2.23

Reference	Title
NHCI 72	24-03-06 NPO February meeting Programme Maturity Assessment East -2024-25 Year 5.v2.4
NHCI 73	3D Stage 3 - Detailed Design.pdf
NHCI 74	3D Stage 5 - Construction.pdf
NHCI 75	3D Stage 6 - Scheme Closeout.pdf
NHCI 76	618810- Stage 3 Pavement Detailed Design Task Brief
NHCI 77	Stage 2 Task Brief.pdf
NHCI 78	Survey Task Order Example.pdf
NHCI 79	608686 A1 Wothorpe to A1M J17 P-AMS Construction Update Form
NHCI 80	Claiming Output Form A1 Wothorpe to Wansford Resurfacing Feb 2024
NHCI 81	KPI3 Performance 23-24_Tracking Report.pdf
NHCI 82	RE_ TO611_823 A47 Sutton Scope change.msg
NHCI 83	Scheme HO meeting.msg
NHCI 84	RE_ 612411 - A5 SB Portway to Kellys Kitchen - Portway entry slip wrong stone TSCS.msg
NHCI 85	Benchmarking National Highways_ regional dashboards 2022 to 2023.pdf
NHCI 86	616354 M11 NB SB J7-J8 Resurf Email ref KPI3 tracking.msg
NHCI 87	Asset Needs Tier 2 Actions 2022-2024 ref KPI3 Feb 2024
NHCI 88	benchmarking-national-highways-road-surface-condition-2023_0.pdf
NHCI 89	Delivery Programme shows KPI3 opportunities top of list Nov23.msg
NHCI 90	HE612391-Sample Lessons Learned Log
NHCI 91	Pavement Programme includes KPI 3 contribution
NHCI 92	PMO Programme includes KPI 3 contribution
NHCI 93	KPI3_Analysis_20240211.01

Reference	Title
NHCI 94	RE_ Asset Needs Tier 2 Meeting - KPI3 on Agenda February 2024.msg
NHCI 95	CDMT Extract Showing Skipping Stage 2
NHCI 96	Extract of scheme scope 1.pdf
NHCI 97	Extract of scheme scope 2.pdf
NHCI 98	KPI Red Data Extract.pdf
NHCI 99	Pavement Programme includes KPI 3 contribution (1)
NHCI 100	PMO Programme includes KPI 3 contribution (1)
NHCI 101	Route Report Extract.pdf
NHCI 102	RRP0842R A14 EB J36 to J38 resurf Project details R
NHCI 103	KPI3 Performance 23-24 (1)
NHCI 104	ORR Investigation - Pavement KPI - Background Information
NHCI 105	Pavement_Performance_Feb24_20240306.01
NHCI 106	Pavement KPI3 Contribution 2024-25
NHCI 107	Skid Resistance Schemes Programme Promptly
NHCI 108	Pavement Inspection Condition Reviews
NHCI 109	PrioritisationTool_ULoN.pdf
NHCI 110	Pavement RIS2 Output Target
NHCI 111	ORR Investigation - Pavement KPI - Role of SES
NHCI 112	Pavement KPI_Executive Committee_Dec23 1400.pdf
NHCI 113	OneDrive_2024-03-15.zip
NHCI 225	AM Renewals - Post Interview Questions .docx
NHCI 226	East Region KPI8 Recovery Response 170630 - Draft v1.4a.xlsx
NHCI 227	Pavement KPI 23_24 (1) (1).pdf
NHCI 228	Pavement KPI 23_24 (1).pdf

Reference	Title
NHCI 229	KPI3 Performance 23-24_Tracking Report.pdf
NHCI 230	618810 A14 EB & WB J35 - J36 Resurfacing SDF.xlsx
NHCI 231	616354 M11 NB SB J7-J8 resurf Pk5.26.xlsx
NHCI 232	13 Pav T3 Minutes Jul 23 (extract).pdf
NHCI 233	612235 A1 Langfrd-BiggsNrbt resurf & A1M-Langfd Mkg Pk4.1.xlsx
NHCI 234	KPI3 Forecast and Challenges 23_24 Presentation.pdf
NHCI 235	Pavement KPI 23_24 (1) (2).pdf
NHCI 236	M1_J10-J13_KPI3_Jan24.xlsx
NHCI 237	OPR (January 2024) - Pavement Deep Dive Slides.pptx
NHCI 238	Pavement KPI (Ops) - Post Interview Questions.pdf
NHCI 239	CS230 - Section 4 Shallow Treatment DMRB
NHCI 271	ORR Investigation - Pavement KPI - Urgent Post Interview Questions
NHCI 272	Performance Plan - Pavement New KPIv0.5
NHCI 279	ORR Investigation - Pavement KPI - Post Interview Questions
NHCI 280	PC15 - Evidence
NHCI 281	PC17 - FUTRAN Compensation Event Notification T0097_Signed
NHCI 282	PC17 - Det rates review task - meeting Feb 23
NHCI 283	PC17 - Det rates review task - meeting May 23
NHCI 284	PC17 - Det rates review task - meeting Jul 23
NHCI 285	PC17 - HE Climate Resilience - phase 1 (2021)
NHCI 286	PC17 - NH Climate Resilience - phase 2 (2022)
NHCI 287	PC17 - 619428_WO scope NEC 4 Professional Services Asset Resilience of Asphalt Surfaced Pavements
NHCI 300	approach-to-asset-management_v_final.pdf

Reference	Title
NHCI 301	Asset_Class_Handbook.pdf
NHCI 302	Asset_Management_Processes_Pavements.pdf
NHCI 303	asset-management-policy-v_final.pdf
NHCI 304	PC19 - Heads of P&D - Dec 2022.pdf
NHCI 305	PC19 - Heads of PABs - Jan 2023.pdf
NHCI 306	PC19 - KPI 2023-24 Q3 Review Group.pdf
NHCI 307	PC19 - KPI 3.1 QBR - July 2023.pdf
NHCI 308	PC19 - Weekly Pavement KPI Performance Update 03.05.23.xlsx
NHCI 309	PC20 - Pavement Extract - RIS2 MPM - v12.pdf
NHCI 310	PC21 - KPI 2022-23 Q3 Review Group.pdf
NHCI 311	Performance Plan - Pavement New KPIv0.5.docx
NHCI313	KPI 3.1 21_22 Lessons Learned.pptx

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