

Lot 4 - Environment

Office of Rail and Road

31 May 2024

Some information has been redacted from the published version of this report where its disclosure could prejudice commercial interests.



FINAL REPORT

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EXECUTIVE SUMMARY

The Office of Rail and Road (ORR) commissioned CEPA, in partnership with Temple Group, to assess the maturity of National Highways’ plans and readiness to deliver environmental actions and outcomes in RIS3.

We assessed whether there is a clear line of sight from National Highways’ environmental performance requirements and statutory responsibilities to identifying activities and developing a robust programme, including project identification, costing and expected timescales for delivery. We have also considered how National Highways has accounted for and mitigated risks related to the deliverability of the environmental programme.

We conducted a desktop review of an interim version of the draft Strategic Business Plan (hereafter referred to as the “dSBP”), supporting materials and responses from National Highways’ to Requests for Information, and clarified our understanding of the proposed approach through a challenge workshop with National Highways’ environmental leads. Temple Group, as environmental subject matter experts, provided input on cost benchmarks and external comparators where appropriate.

This draft report provides our overall observations on the completeness and maturity of the RIS3 environmental plan, highlighting areas where the evidential basis and justification for the proposed funding and performance is presently lacking. We also provide recommendations for ORR, which might form the focus of ORR’s challenge to the environmental aspects of the dSBP.

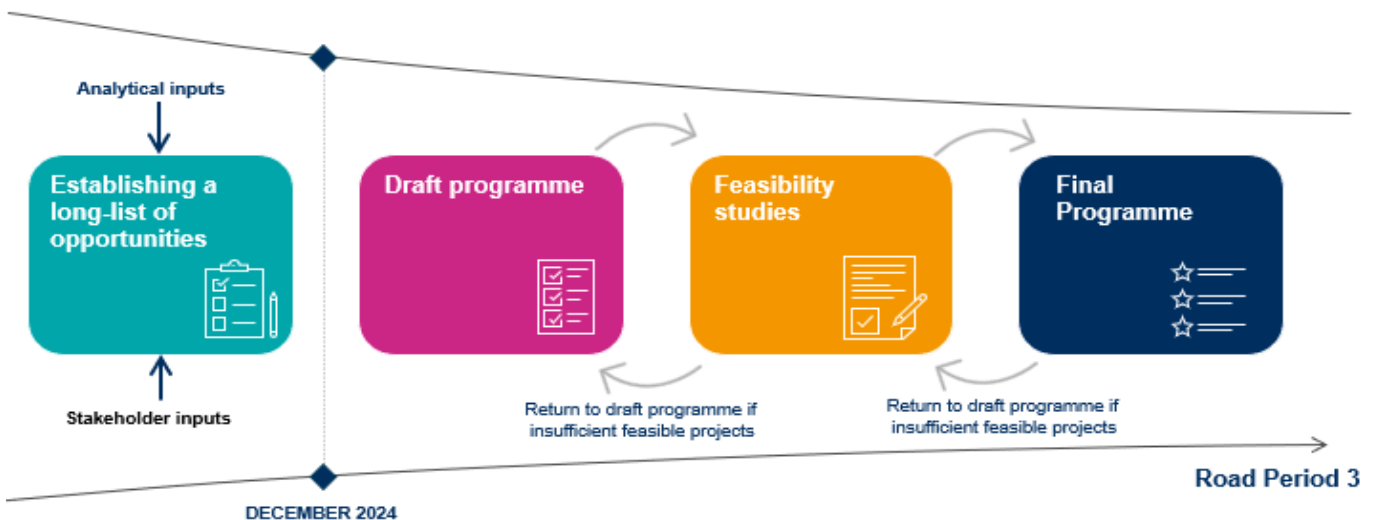
Findings

Our findings are set out separately for each outcome area. We provide key findings in the beginning of each section as well as RAG rating tables at the end of each section. To help ORR to prioritise its challenge, we provide two RAG ratings: one on how developed National Highways’ plans are and the other on how important the issue is for ORR to consider as it continues to challenge the Company’s plans in advance of RIS3.

At this stage, National Highways’ progress against the questions that ORR has asked us to consider are primarily Amber or Red. Many aspects of the environmental plan are not sufficiently developed, e.g., there is often no pipeline of named schemes in place, cost estimates tend to be early stage and the dSBP does not appear to have sufficiently accounted for the risks associated with the environmental programmes that National Highways is proposing to deliver. The spending profile for environmental funds from the National Programmes and Designated Funds is back-end loaded; National Highways does not appear prepared to begin RIS3 with a running start.

Overall, the funding allocated to the environmental plan is less well evidenced and justified than other aspects of the dSBP we have reviewed. In response to our draft report, National Highways said that it is logical that planning for delivery would ramp up as funding and overall performance levels become more settled through the RIS process. We take a different view. The aim of the SBP development process is for National Highways to present an efficient and deliverable business plan; there remains much progress to be made before the start of RIS3.

Figure ES.1: National Highways’ view of the current status of programme development



Source: National Highways

We summarise the main findings for each environmental outcome area within our scope below.

Biodiversity

National Highways has a pipeline of potential schemes to meet its RIS2 biodiversity target, and potentially exceed it – although this will need monitoring in the coming months. The proposed target for RIS3 is lower than in Road Period 2 (RP2), due to a proposed change to an assumption on the degree of deterioration in biodiversity on the soft estate. It assumes that National Highways uses its soft estate maintenance budget to effectively prevent the loss of biodiversity on areas of the soft estate that are in a maintainable condition – but where there is evidence that maintenance is not taking place, the biodiversity target may need to increase to reflect additional deterioration. This change also means that the biodiversity Key Performance Indicator (KPI) will focus on areas of the soft estate where biodiversity is being lost. This results in a KPI target of 2,500 biodiversity units (BUs) over Road Period 3 (RP3). Considering current performance and the lower target, we think that the proposed RIS3 target is achievable.

National Highways will separately report on a 10% biodiversity net gain on all Nationally Significant Infrastructure Projects (NSIPs) covered by the Environment Act 2021, that is, new RIS3 enhancement schemes from 2025 and a 15% net gain on the Lower Thames Crossing. It also aims for 10% habitat unit gain on all RIS3 enhancements.

However, as of yet there is no developed programme of work to support delivery. National Highways told us that there is an indicative pipeline of projects with existing partners with capacity to achieve the RP3 target, however it has not yet allocated biodiversity units to specific projects as the final composition of the portfolio is not yet known. The approach to costing of biodiversity units is high-level and therefore the resulting cost estimates are subject to uncertainty – external benchmarks show a wide range of estimates depending on the type of habitat and the external market is adjusting to the recent introduction of mandatory biodiversity net gain. As the plan becomes more detailed, we think there may be scope to reduce the cost of delivering biodiversity units.

Overall, the dSBP lacks clear linkages between cost, schedule and performance. Significant acceleration of planning is likely to be required if National Highways is to deliver the whole programme within RIS3.

Water quality

National Highways' plans on improving water quality are at an early stage. National Highways is currently undertaking verification of outfalls to understand how many high-risk outfalls it needs to address, which in turn will inform the feasibility and early design work which it has procured an external technical adviser to carry out and help accelerate the programme. It has a rough expectation of the number of outfalls it will seek to mitigate in RIS3 (approximately 260) and a high-level cost estimate (~£500,000 per asset after inflation adjustment) associated with the programme.

The RIS3 water quality programme is expected to be considerably larger than in previous Road Periods. The RIS3 plans need to be developed further at pace given the large step up in delivery anticipated, and ORR may wish to monitor National Highways' progress on outfall verifications, developing a more structured programme and forming a delivery model.

The step up in volume and the current lack of preparedness indicate that National Highways may not be ready to deliver on schedule. As the expected delivery profile is back-end loaded, any delay might risk delivery, and be pushed into next Road Period.

There are also risks related to the high-level approach to costing. Water quality schemes tend to be bespoke and involve a degree of stakeholder engagement and planning risk. National Highways is developing standardised designs for RIS3, including costs, for mitigations that can be undertaken within the highway boundary. Although this may provide more certainty to cost estimates, it is unclear how well it will reflect the different type of interventions required and the complexity of works to be undertaken. We think that more could potentially be done to develop a bottom-up approach to scheme estimation that reflects these aspects of the programme.

Noise

National Highways now has considerable experience in delivering noise mitigation. But it is behind delivery against its RP2 target of mitigating 7,500 households: 38% of the target needs to be mitigated in the final 18 months of RP2. National Highways should at this stage understand the risks and challenges to the programme, but it has not yet

developed a detailed plan for RIS3 which means that any specific challenges have not yet been documented as far as we can see. The lack of a more detailed plan means that we conclude that there is not a clear line of sight between the plan, its cost and impacts on the target.

Cost estimation relies on a top-down figure of £7,200 per household which is built on experience from RP1 and RP2. National Highways has noted that the programme will be limited by the budget allocation, resulting in a proposed RIS3 target of 6,250 households. We think that there is scope to apply a modest efficiency challenge which would facilitate National Highways to deliver a higher target of around 6,430.

Given National Highways' experience in noise reduction, it should aim to plan a continuous programme (as opposed to treating each five-year period on isolation) and consider synergies with other funding areas. It is hard to understand why there is no detailed plan for ongoing activity that National Highways has been working on for many years. Its approach might lead to back-end loading of the RIS3 programme with a risk that work will not be completed on time; a challenge facing National Highways at present. Better planning would also present the opportunity to coordinate noise works with wider resurfacing works in the RIS. Accordingly, we recommend that ORR do more now to ensure that National Highways can hit the ground running at the start of RIS3.

Air quality

We acknowledge that National Highways has limited ability to control air quality, however, in the past it has explored options such as speed trials and an ongoing scheme to facilitate take up of electric vans through grants. We understand that the former does not currently form a part of the RIS3 programme.

National Highways is proposing to allocate £11m from the Environment Designated Funds to air quality in RIS3. There is no programme of planned schemes in place yet, as National Highways explicitly plans to react to requests from others, e.g., local stakeholders. A key issue is the potential for projects to be poor value. There is a need to be mindful when assessing options, which National Highways has acknowledged.

We think that the objective of the air quality funding should be confirmed given National Highways' otherwise limited ability to deliver meaningful progress towards the UK's air quality targets.

Cultural and heritage assets

National Highways is responsible for a range of cultural heritage assets that are on or adjacent to its network. It has set a target of delivering approximately 900 Cultural Heritage Units (CHUs) over RIS3 to bring all assets to 'adequate' condition. This is a significant increase to the CHUs delivered to date during RP2.

National Highways has created Cultural Heritage Asset Management Plans (CHAMPS) for these assets, which detail the condition of the assets and provide recommendations for maintenance and repair. These plans do not provide information on the number of CHUs assigned to each asset and this means that there is no line of sight from the CHAMPS to performance.

Despite making very limited progress against this Performance Indicator (PI) in RIS2, National Highways has proposed a large scaling up of work. We are unable to assess whether this is reasonable given the limited information that National Highways has made available. We conclude that undertaking less work and combining it wherever possible with other roadside activities e.g. maintenance, may present a more realistic option for RIS3.

Sites of Special Scientific Interest

Sites of Special Scientific Interest (SSSIs) are a new outcome area for RIS3. We would expect the work undertaken as part of ensuring all sites are in 'favourable' condition to have material overlap with other environmental outcomes e.g. biodiversity and water quality. Addressing the sites is further complicated by the significant stakeholder engagement which is likely to be required. National Highways' plans are not yet well formed and appear ambitious given the complexity of enhancing SSSIs.

We are also concerned that National Highways' cost estimates, based on work in RIS1, maybe overly simplistic given the range of activities that can be involved in addressing a SSSI. The risk in these estimates could be offset by aligning works with those in other outcome areas. National Highways recognises this potential, but the dSBP does not appear to have systematically considered the potential for synergies.

1. INTRODUCTION

1.1. CONTEXT TO THE EFFICIENCY REVIEW

National Highways has presented an interim version of the dSBP to ORR to facilitate an Efficiency Review which will inform the development of RIS3. ORR scrutinises the dSBP to assess whether it is efficient and whether it is aligned with the emerging performance requirements which National Highways will be expected to achieve in the next Road Period (RP3) which runs from 2025–2030.

RIS3 will be delivered in the context of increasing public interest in environmental issues and pressure on the public sector and private industry to affect change, from improving the quality of the UK’s rivers and bathing waters, to reducing carbon emissions and addressing the deterioration in biodiversity. There are also increasing expectations on the managers of essential national infrastructure to ensure that their networks are resilient to the impacts of climate change, including more frequent flooding events. The interim version of National Highways’ dSBP recognises that the operation and use of the Strategic Road Network (SRN) has an impact on the surrounding environment and communities, so it sets out a plan for managing the SRN in an environmentally sustainable manner.

National Highways has submitted proposals for funding worth £380m over RIS3 to deliver on its environmental plans (increased from £325m in RIS2), underpinned by its *Environmental Sustainability Strategy*¹ and *Net Zero Highways*² – its plan to decarbonise its operation, maintenance and enhancement of the SRN by 2040. In turn, these plans will be translated into a series of performance metrics in the RIS3 Performance Specification. National Highways’ proposals for the RIS3 performance specification are summarised in Table 1.1 below.

Table 1.1: National Highways’ proposals for the RIS3 Performance Specification

Performance metric		Unit of measure	Target
KPI	Biodiversity	Biodiversity units, percentage	No net loss over RIS3 on existing soft estate, equal to 2,500 biodiversity units
KPI	Corporate carbon	Tonnes of CO ₂ e	90% absolute reduction from the 2019/20 baseline by March 2030 and 87% average reduction over 2029/30.
PI	Water quality	Length of watercourse enhanced, km	NA
PI	Noise	Households within noise important areas (NIAs) mitigated	NA
PI	Air quality	Number of reported pollution climate mapping (PCM) links in exceedance	NA
PI	Cultural and heritage assets	Total score on quality of National Highways assets	NA
PI	Litter	Percentage at an acceptable grade of cleanliness	NA
PI	Maintenance and construction emissions	Tonnes of CO ₂ e per unit cost	NA

Source: National Highways (2024), *Performance Specification Update to dSBP, 2nd April 2024*; National Highways dSBP

¹ National Highways (2023), *National Highways Environmental Sustainability Strategy*. Available [online](#).

² National Highways (2021), *Net Zero Highways: Our 2030 / 2040 / 2050 plan*. Available [online](#).

1.2. SCOPE OF THIS REPORT

The ORR commissioned CEPA – in partnership with Temple Group – to review an interim version of National Highways’ dSBP to assess the maturity of its plans and readiness to deliver environmental actions and outcomes in RIS3. Our scope covers the following areas:

- Is there a clear alignment between National Highways’ plans and emerging environmental performance requirements and its statutory responsibilities; that is, are there plausible linkages between actions, costs, outputs and outcomes?
- To evaluate National Highways’ approach to cost estimation and choice of benchmarks.
- To confirm whether National Highways has a robust plan in place for delivering environmental improvements.
- Based on the plans and evidence, to assess whether the proposed environmental performance targets are achievable, and if risks to achievement of the performance targets have been identified and assessed.

Our review included a detailed desktop review of the dSBP documentation and associated materials provided to support the National Highways’ proposals, a series of challenge workshops, and Requests for Information (RFIs) to clarify the justification for National Highways’ proposals, to which it has submitted written responses. We have supplemented this review with research on external comparators and benchmarks where appropriate, with support from environmental subject matter experts at Temple Group.

This report documents our draft findings. We also provide our overall observations on the completeness and maturity of the RIS3 environmental plan, highlighting areas where the evidential basis and justification for the proposed funding and performance is presently lacking.

To assist the ORR with the prioritisation of its ongoing engagement with National Highways and its challenge of the dSBP, we have assigned RAG ratings for each outcome area against the scope questions. These RAG ratings consider two different aspects of National Highways’ plans:

- **How developed the plans are**, i.e., the progress that has been made to be ready to deliver environmental actions and outcomes in RIS3 (**none, some, good**).
- **How important the issue is**, i.e., how urgently the ORR should respond to this issue by requesting additional detail on National Highways’ plan (**high, medium, low**).

Finally, we provide a set of recommendations to ORR on actions that it might pursue as it continues to review and challenge National Highways’ plans ahead of the start of RIS3.

1.3. OVERVIEW OF THE RIS3 PLAN

Many of the RIS3 environmental metrics are a continuation of expectations established in previous Road Periods. National Highways now has significant experience and knowledge of how to deliver the expected outcomes. An exception to this is the introduction of SSSIs as a new area of interest (although National Highways is not proposing a KPI or PI to be attached to these projects). The dSBP is at an early stage of development and this experience is not yet fully reflected in the plans, e.g., for biodiversity and noise, which are not as mature as we would expect for this stage of the planning cycle.

National Highways’ progress against the RIS2 targets is mixed areas as noted in the below.

- **Biodiversity:** Following intervention by ORR, National Highways is now on track to meet its RP2 biodiversity target and will potentially exceed it.
- **Water quality:** The number of outfalls addressed is not publicly reported but we believe progress to be slow based on the length of watercourse enhanced (39km over 2020/21 to 22/23³). It addressed only 56 outfalls over the course of RP1.⁴ National Highways plans to mitigate 254 outfalls during RIS3.

³ ORR, *Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023*. Available [online](#).

⁴ National Highways (July 2020) “*Strategic Report 2020: Our journey so far*” available at [nationalhighways.co.uk](https://www.nationalhighways.co.uk).

- **Noise:** National Highways has mitigated 4,163 households (55%) over years 1–3 against the 7,500 target. At this rate of delivery, National Highways is behind the required trajectory to reach the end of RP2 target.⁵ As at end November 2023 confidence in delivery was reported to be low.
- **Cultural and heritage assets:** National Highways undertook 48 projects in the first three years of RP2 with an increase in CHUs of 46. Given that the RIS3 dSBP targets 900 CHUs, the plan is predicated on a very different approach to cultural heritage but without any justification at present to support deliverability.
- **SSSIs:** This is a new area of focus for RIS3 – National Highways targets recovery of condition at 68 sites.

Overall National Highways is proposing significantly higher targets in some areas, such as in water quality – an ambition which is not supported by current performance or the early stage of development of the dSBP.

Funding allocation

National Highways has requested an increase in funding compared to the RIS2 plan (£360m versus £325m). Table 1.2 below provides a breakdown. The case for this expenditure is not as far progressed as the case for OMR or enhancements. National Highways has relied on a simple top-down cost estimation approach, and for some areas the dSBP provides no justification as to how the costs are determined (e.g., landscape connectivity and climate resilience). In these cases, the requested funding seems to be a placeholder at this stage.

We note that National Highways has allocated £40m for its ‘no net loss’ biodiversity target on its soft estate, with some biodiversity improvements potentially coming from the Designated Fund. Based on the number of biodiversity units to be delivered (2,500) and the stated cost per unit (£33,000), we estimate that National Highways should be proposing £82.5m for the outcome area.

Table 1.2: RIS3 funding allocation for the Environmental plan⁶

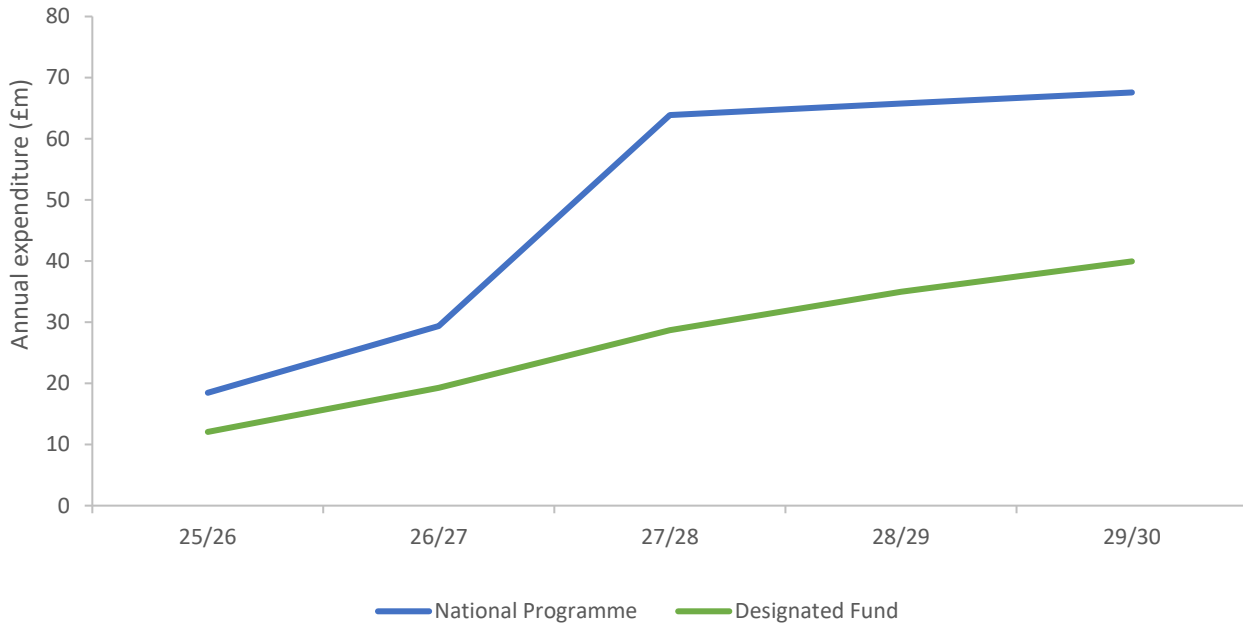
Outcome area	Allocated funding (£m)
National Programmes	245
Biodiversity (no net loss on National Highways’ estate)	40
Water quality	127.5
Noise	45
Cultural and heritage assets	11.5
SSSIs	22
Designated Funds	135
Air quality	11
Soft estate	6
Landscape scale connectivity (landscape scale initiatives, urban initiatives, areas of high landscape and recreational value)	25
Landscape scale connectivity (nature-based solutions, natural flood management, 3 million trees, some biodiversity improvements)	40.5
Climate resilience (off-network)	48
Circular economy	2
Responsible sourcing	1.5
Enabling activities	4

⁵ ORR, Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023. Available [online](#).

⁶ National Highways proposes a total of £245m for National Programmes and £135m for Designated Funds. Summing over the proposed sub-programmes totals £246m and £138m, respectively, indicating that there may be a rounding error.

As seen in Figure 1.1 below, the funding profile is expected to be back-ended, with low planned spend for both National Programmes and Designated Funds during the early years of RIS3. Despite its growing experience, National Highways does not have sufficiently mature environmental programmes in place to enable it to deliver significant benefits early in the Roads Period.

Figure 1.1: RIS3 funding profile (annual expenditure)



Source: B.3. Financial Model.xlsx

1.4. STRUCTURE OF THIS REPORT

The remainder of this report is structured by area of environmental focus:

- **Section 2** looks at biodiversity (KPI)
- **Section 3** examines water quality (PI)
- **Section 4** considers noise (PI)
- **Section 5** reflects on air quality (PI)
- **Section 6** considers cultural heritage (PI)
- **Section 7** looks at sites of special scientific interest
- **Section 8** summarises our overall conclusions and recommendations

2. BIODIVERSITY

Key findings

- National Highways is proposing changes to the biodiversity KPI to address issues which materialised in RIS2. The KPI will now focus on the existing soft estate, and distinguish between areas that it is able to keep in maintainable condition (where it assumes that the number of biodiversity units are stable over time) and areas where habitat condition falls below that standard (where it assumes that the number of biodiversity units deteriorates by 1% annually).
- This results in a KPI target of 2,500 biodiversity units over RP3 assuming that National Highways carries out the expected volume of soft estate maintenance (though the target could increase if National Highways does not carry out the planned maintenance volumes). The lower target proposed by National Highways should be achievable given expected performance in RIS2 although ORR should engage with National Highways and DfT to ensure that both the KPI metric and target are aligned with the strengthened biodiversity duty under the Environment Act 2021.
- It will separately report on 10% biodiversity net gain on all covered by the Environment Act 2021 (i.e. new RIS3 enhancement schemes) and 15% net gain on the Lower Thames Crossing. It is also aiming for 10% habitat unit gain on all RIS3 enhancement schemes.
- But the plan lacks a mature programme of work to support delivery and the costing is high level.
- The average cost per biodiversity unit towards the top of the range implied by external benchmarking evidence. But it is a significant increase on average costs in RP2 and we think there is scope for efficiency.
- Overall, the dSBP lacks clear linkages between cost, schedule and performance. Significant acceleration of planning is likely to be required if National Highways is to deliver the whole programme within RIS3.

National Highways' RIS3 ambition is to be 'Net Positive for Nature', which it defines as the improvements in biodiversity delivered by National Highways exceeding the loss through construction interventions, renewals and natural degradation of habitats. The ambition is made up of two separate targets:

- No net loss over RIS3 on the existing soft estate, equal to 2,500 BUs (i.e. excluding BUs delivered on enhancements schemes) – this is the proposed KPI.⁷
- 10% biodiversity net gain on all Nationally Significant Infrastructure Projects as required by the Environment Act 2021 starting from November 2025.⁸

Section E4 of the dSBP also refers to “*aim[ing] for 10% habitat unit biodiversity net gain on Major Project enhancements by aiming to deliver more, deliver more effectively, or offsetting our impact on biodiversity at these locations*”.⁹ We interpret this to mean that National Highways has an ambition to achieve 10% net gain on most Major Project enhancement schemes which are funded in RIS3, but it is not a commitment in all cases and it is not a part of the 'Net positive for nature' metric. We also assume that the 'small schemes' enhancements are excluded. Small enhancement works typically follow different planning consent routes and involve a less extensive land take than NSIP schemes. As such, they might have a reduced biodiversity impact. But nonetheless this is a potential gap that ORR may wish to ensure that National Highways and DfT have considered.

The 2,500 BUs required to deliver no net loss on the existing soft estate is significantly lower than the RP2 biodiversity target of 5,540 BUs (but which included BUs delivered by Major Projects in connection with the RIS2 enhancement portfolio). National Highways has almost 10 years' experience of delivering biodiversity improvements, which is reflected in its RP2 performance: it is currently on track to meet its target, as seen in Figure

⁷ National Highways assumes that budgets are allocated and spent on soft estate maintenance to prevent the loss of biodiversity on assets that are in a maintainable condition. Where there is evidence that maintenance is not taking place, the 1% loss assumption will apply which increases the number of biodiversity units needing to be offset.

⁸ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

⁹ National Highways (2024), *Draft Strategic Business Plan: Section E: Setting RP3 Performance*, page 101.

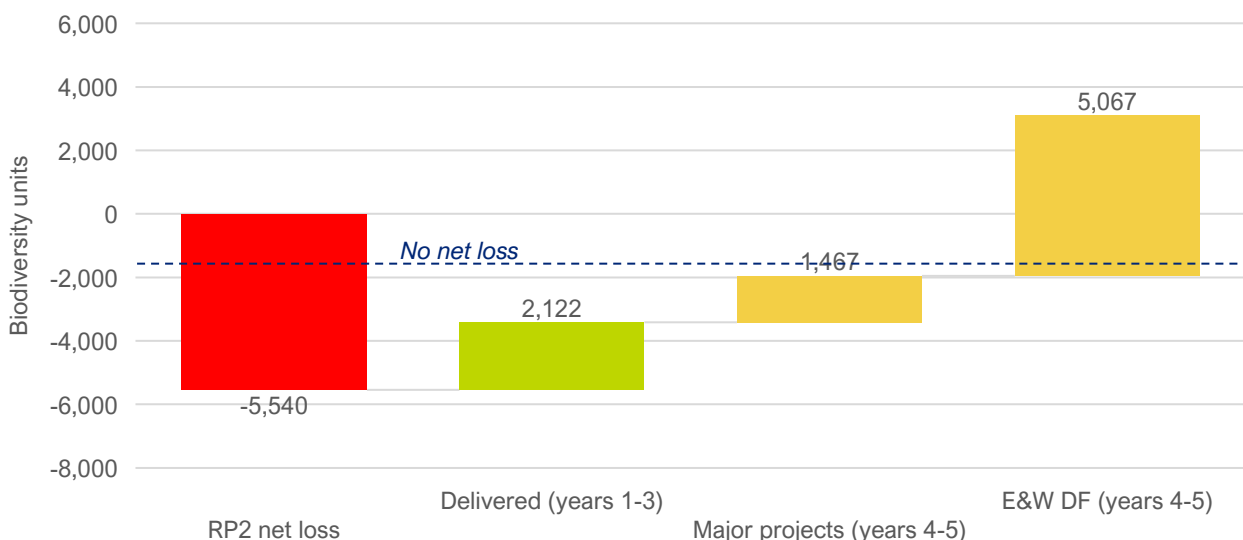
2.1 below, albeit after intervention from ORR mid-way through the Roads Period.¹⁰ National Highways has developed an overprogrammed pipeline of projects from the Environment and Wellbeing Designated Fund to mitigate for the risk of slippage in the enhancements programme – although it is assuming that it will deliver more biodiversity units in Years 4 and 5 of RP2 than in any previous reporting year. Given that it can take time to generate delivery momentum, National Highways might yet exceed its RP2 target but this will need close monitoring in the coming months as confidence in delivery is closely linked to the success (or otherwise) of the Networks for Nature programme.¹¹

From January 2023, the Environment Act 2021 extended the biodiversity duty on public authorities. originally introduced in the National Environment and Rural Communities Act 2006 section 40, to provide for the enhancement and improvement of biodiversity. We suggest that the ORR should engage with National Highways and DfT to ensure that the ‘Net Positive for Nature’ metric – which its separate limbs for the existing soft estate and NSIPs – is aligned with this strengthened biodiversity duty.

RIS3 funding for biodiversity will come from several sources: £40m has been allocated to ‘no net loss’ from the National Programmes, while some smaller improvements might be funded with Designated Funds (e.g. from the ‘landscape scale connectivity’ line, see Table 1.2). In addition:

- There is £67m of new maintenance funding for the soft estate to help sustain biodiversity at current levels. Planned activities will help to avoid further deterioration in biodiversity. If planned maintenance volumes are delivered, this maintenance funding will not contribute to the target of 2,500 BUs. But if National Highways does not deliver the planned maintenance volumes, then the 2,500 BUs target would increase since logically the 1% deterioration rate needs to be applied to a larger percentage of the soft estate.
- A new £165m soft estate renewals line, which aims to revert soft estate assets which are not in maintainable condition currently, back into their intended maintainable condition. Interventions would be targeted at assets in the worst condition category and where it offers the greatest reduction in safety risk.¹²

Figure 2.1: Expected RP2 delivery, including the BUs delivered and the expected BUs from major enhancements and the Environment and Wellbeing Designated Fund



Source: CEPA analysis of National Highways (2023¹³ and 2024¹⁴) and ORR (2023)¹⁵

¹⁰ National Highways (2024), *Performance Specification Update to dSBP*, 2nd April 2024.

¹¹ National Highways (2023), *Designated Funds: Performance Review – Q2 2023/2024: Dec 23*.

¹² National Highways (2024), *Draft Strategic Business Plan: Section A: Soft Estate Asset Renewal* and RFI response 029.

¹³ *Designated Funds: Performance Review – Q2 2023/2024: Dec 23*, Slides provided by National Highways.

¹⁴ National Highways (2024), *Performance Specification Update to dSBP*, 2nd April 2024.

¹⁵ ORR, *Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023*. Available [online](#).

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

We have evaluated whether National Highways' dSBP provides clear linkages between the biodiversity requirements (both the 'no net loss' and the 10% BNG), actions, estimated costs and the expected outputs. Central to this has been evaluating how National Highways' planned activities contribute to not only the metric but to biodiversity outcomes on National Highways' land, i.e., the soft estate.

No net loss

National Highways uses a 1% annual biodiversity loss assumption to estimate the deterioration in biodiversity on its soft estate – and consequently, the number of BUs it needs to offset. During RP2, National Highways applied the assumption to the whole soft estate. Since then, it has gained a better understanding of the condition of the soft estate via inspections and the use of satellite mapping.

As part of its thinking for RIS3, National Highways has estimated that 80% of the soft estate is in 'maintainable' condition, meaning that "*the plots are performing their intended function, e.g., species rich grassland has not developed into scrub and can be maintained in line with standard*".¹⁶ Maintenance funding is expected to maintain these areas so that there will not be a loss of biodiversity. For the 20% of the soft estate not in maintainable condition (or more than 20% if National Highways does not deliver planned maintenance activities), the 1% degradation assumption will be applied. National Highways aims to use the £165m soft estate renewals funding line to reduce the 20% of the soft estate that is not in maintainable condition.

National Highways estimates that the whole soft estate contains 250,000 BUs, resulting in an annual loss of 500 BUs and a total loss of 2,500 over RIS3, which needs to be offset.¹⁷ It estimates that the renewals funding would return approx. 10% of the soft estate back into a maintainable condition by the end of RP3 (around 625 BUs) although the dSBP does not contain sufficient detail to determine how ORR might monitor the delivery of this restoration.

The dSBP is not clear on how National Highways will align better management of the estate with the requested funding and deliver the required 2,500 BUs. It has provided us information on its 'Networks for Nature' programme to be delivered with the National Wildlife Trust. The £11.5m programme is expected to deliver over 3,500 BUs across locations in England.¹⁸ However, we have not seen evidence of a wider pipeline of projects, which would tie together the allocated funding with the expected outputs. We understand that many of the Networks for Nature projects will not be delivered on land owned by National Highways, i.e. it plans to use a form of offsetting to achieve its target. Hence, there is a heavy reliance on the effective delivery of maintenance interventions on the existing soft estate to achieve 'no net loss' but there is as yet little to say about plans to enhance the soft estate.

This approach raises concerns over the changes proposed to the metric, which may have significant implications. The revised application of the 1% assumption incentivises National Highways to keep the existing soft estate in a maintainable condition but the maintenance of the soft estate is not an output that the ORR monitors closely at present and there is an indirect relationship with the desired outcome (maintaining biodiversity value). An important question here is what is the objective in the biodiversity outcome area, i.e. what should National Highways be incentivised to do? Currently, the proposed changes weaken the link between achieving the target and improving biodiversity on National Highways' own land (which is arguably the intent behind the strengthened biodiversity duty established by the Environment Act 2021).

Additionally, in our view, the proposed use of the £165m renewals funding is not well justified at present. Our review of the OMR plan did not find a clear use for that funding, but we note that in the South West and East, National Highways states that it is at the peak of management of ash dieback – which is a significant area of spend and we assume has historically been funded via maintenance. In summary, we do not query the quantum of renewals funding proposed per se, but rather we find that it is not as clearly justified as other expenditure lines.

¹⁶ RFI 29 response

¹⁷ RFI 29 response

¹⁸ RFI 142 response

10% BNG from Major Projects

In regard to the 10% BNG within major projects, we have not been able to establish a link between National Highways' plans on how to deliver biodiversity improvements and the approach to cost estimation. As we describe in the following section, the National Highways has applied a 2% funding overlay for NSIP schemes with a start of works in RIS3 to account for the uncertainty in the cost of delivering the 10% BNG requirement (such as the A38 Derby Junctions, A46 Newark Bypass and A66 Northern Trans-Pennine schemes).¹⁹ While this might be a holding position until better evidence emerges, it is important that these projects are developed from the outset with the biodiversity objective in mind. We note that evidence from other sectors, e.g. construction and housing development, indicates that the most effective approach to planning the projects would incorporate biodiversity improvements in the design phase, allowing for a bottom-up costing. Therefore, we recommend that ORR monitor the relevant RIS3 schemes to ensure that best value is being driven by designing for biodiversity from the outset. We conclude that National Highways plans for biodiversity net loss and net gain do not show the clear links between cost and activity that would give ORR full confidence in the plans at this stage. In other enhancement schemes which are already well advanced but where BNG is not mandated by the Environment Act, such as the A428 Black Cat to Caxton Gibbet and A46 Coventry Junctions schemes, ORR should note that the 10% net gain is often a commitment within the target cost agreed with the Delivery Integration Partner.

National Highways' approach to biodiversity has been reviewed previously separately by CEPA²⁰ and Ground Control²¹. Based on the information in the dSBP, we are not convinced that National Highways has yet addressed the recommendations from those reviews. In particular, Ground Control recommended that it improve its approach to tracking progress, such that it would be easier to track and monitor confidence in delivery and therefore whether it was on track to meet the RP2 target.

Evaluation of National Highways' approach to cost estimation

No net loss

National Highways has adopted a benchmark cost of £33,000 per BU for the improvements delivered as part of the 'no net loss' target.²² This represents a significant increase to the average cost per BU in RP2 (£17,040), which is based on 68 projects funded through the Designated Funds.²³ In its dSBP, National Highways notes that the RIS3 benchmark cost is a mid-point between the market value reported by Defra and the highest Local Planning Authority tariff it has experienced, which can be high in areas with a lot of development.²⁴

National Highways has sought to justify a higher unit cost in RIS3 because it will target assets in the worst condition, as well as assets where the improvement in safety and biodiversity is the greatest (typically made up of woodland and grassland plots).²⁵ It has considered the greater demand for BUs in the coming years due to the Environment Act requirement for new development and NSIPs specifically, noting that market rates for habitat management have been increasing year on year. National Highways also noted that inflation increased the cost of resources and traffic management. The latter made up a significant share of overall costs in the past (typically in excess of 30%).²⁶

To counter cost increases, National Highways states that it will seek efficiencies by delivering with third parties it has existing relationships with. For example, as part of the Networks for Nature programme, the Wildlife Trust is committed to retaining the cost per BU at a level matching the cost of the works they deliver, as opposed to market rates.²⁷ During RP2, third-party delivery came with materially lower unit costs (£5k-£15k compared to the average cost per unit of £20k-£23k).²⁸

¹⁹ RFI 98 response

²⁰ CEPA (May 2022) "Monitoring National Highways' biodiversity performance in RP2", available at [orr.gov.uk](https://www.orr.gov.uk).

²¹ Ground Control (Dec 2022) "National Highways' biodiversity plan – independent technical review" available at [orr.gov.uk](https://www.orr.gov.uk).

²² National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

²³ RFI 59 response

²⁴ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

²⁵ RFI 29 response

²⁶ RFI 59 response

²⁷ RFI 142 response

²⁸ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

We asked Temple Group to advise on benchmarks used elsewhere. Defra’s regulatory impact assessment adopted an offset unit price of £22,800 but it acknowledges that the market was not fully developed when the figure was set, and the unit price could range from £14,000 to £30,000.²⁹ Allowing for 20% CPI inflation since 2021, that range would increase to £16,800 to £36,000. Temple noted that the cost per BU can be determined by a range of additional factors, such as the location of interventions, delivery approach and most importantly the type of habitat. For example, a recent market analysis by Wild Capital (2024) indicates that the cost range is typically expected to be £20,000 to £35,000 for habitats such as scrub and grassland, but for woodland habitats the range is expected to be higher (£50,000-£60,000).³⁰ Temple noted that National Highways’ average unit cost benchmark might come with a risk of underestimating the cost of delivery off-site through the market, exacerbated by the expected higher demand. A key consideration for the appropriateness of its approach is whether National Highways is expecting similar interventions and habitats in RIS3 as in the current period.

Overall, we find that National Highways’ top-down cost estimate is within a reasonable range based on the external evidence – albeit towards the top-end of that range. It is also a significant increase on average costs in RP2 and the justification to support that increase is not well evidenced. Taking into account the increasing demand for BUs and the cost differences driven by different habitat types, we find that it would be reasonable for ORR to adopt a unit cost estimate in the top half of the inflation-adjusted range (£26,000 to £36,000). Using the mid-point in that range (£31,000) would result in a total cost of £77.5m to deliver 2,500 BUs.

10% BNG from Major Projects

For Major Projects with a start of works in RIS3, National Highways has applied a 2% cost overlay to account for the potential costs due to the 10% BNG. The number of BUs that will be delivered in each Major Project is not yet known. In an RFI response, National Highways has told us that a budget uplift for the 10% BNG “*in line with market rates has been built into the RP3 major projects programme.*”³¹

To compare the cost of delivering BUs in Major Projects and from Designated Funds funding, we have undertaken a hypothetical analysis, as shown in the Table 2.1 below. We have used three RP2 Major Project schemes and calculated the unit cost of a BU using the 2% cost overlay. The resulting illustrative unit costs vary significantly and are well above both the benchmark of £33,000 and Temple’s benchmark range from the literature.

Table 2.1: Hypothetical illustration of the 2% cost overlay using RP2 Major Projects

Major project	Cost estimate (£m)	2% of the cost estimate (£m)	Biodiversity units	Cost per BU (£000)
A428 Black Cat – Caxton Gibbet	[X]	[X]	404	[X]
A66 NTP	[X]	[X]	839	[X]
A417 Air Balloon	[X]	[X]	139	[X]
Average				55,692

Source: CEPA analysis of RFI 098 and 124 responses and the RIS3 Financial Model (section B3 of the dSBP)

National Highways has not produced any analysis to support the 2% cost overlay within Major Projects – it describes it as “*the minimum requirement to manage the unknown cost risk of the new BNG targets*”.³² Therefore, we recommend that ORR further engages with National Highways to challenge the ‘unknown cost risk’ approach and require that the biodiversity actions on future enhancement schemes be fleshed out and costed bottom-up as an integral part of the scheme design and development.

²⁹ Department for the Environment and Rural Affairs (2021), *Biodiversity Net gain for Nationally Significant Infrastructure Projects*, Impact Assessment. Available [online](#).

³⁰ Wild Capital (2024), *Practical guide to Biodiversity Net Gain for Developers*.

³¹ RFI 29 response

³² RFI 59 response

Does National Highways have a robust plan for the delivery of biodiversity improvements?

We have evaluated National Highways’ readiness to implement its biodiversity programme from the first year of RIS3 onwards, considering both risks associated with delivery and the overall deliverability of the planned projects. In terms of ‘readiness’. We looked for an emerging pipeline of projects, i.e., named schemes with proposed designs and costings, as well as progress negotiating with stakeholders where doing so is necessary.

At this stage of the planning cycle for RIS3, and with the experience that National Highways has in delivering biodiversity improvements, we would have expected to see more mature plans and a pipeline of projects for RIS3. The proposed delivery profile assumes a flat 500 BUs are delivered per year throughout RIS3 (i.e. the target has been divided by five), but we have not seen any evidence how the planned volume of BUs is delivered in Year 1. In addition, there is a potential inconsistency between the back-ended spending profile of the Environment National Programmes and Designated Funds and the flat delivery profile. We conclude that National Highways is not ready to deliver its biodiversity programme. However, the programme should be deliverable, given that the changes to the metric reduce the target compared to RIS2 and the greater delivery through stakeholders.

Are the proposed targets achievable and have the risks been assessed?

There are risks related to National Highways’ approach to planning for the biodiversity improvements. We suspect that a significant share of the 2,500 units will be delivered through third parties, e.g., through the Wildlife Trusts via the Networks for Nature programme. Third party delivery has its benefits, but there is a need to agree plans, land access agreements, maintenance regimes and funding contributions. National Highways told us that it actively manages these risks. If managed poorly, dependence on third parties may result in National Highways falling behind its planned delivery profile early in RIS3. Although delivery on the operational estate may be less complex, we are similarly concerned that early progress will be limited due to the lack of named schemes and feasibility studies. Additionally, given the focus on maintenance of the existing soft estate, we suggest that the ORR will need to consider how it monitors National Highways’ delivery of environmental maintenance activities going forward, to ensure that biodiversity is not being lost.

In addition to the risks related to this outcome area, we have evaluated the achievability of the KPI. Based on current RIS2 performance and the lower RIS3 target, the RIS3 target should be achievable. But ORR may wish to consider whether the target can be achieved with a lower budget (as opposed to an increase relative to RP2).

Summary of CEPA’s assessment of the biodiversity plan

Issue	Progress	Importance	Rationale
Line of sight	AMBER	HIGH	We do not observe sufficient links between the targets, planned activities, costs and outcomes to have confidence that National Highways’ plans will achieve the objective of improved biodiversity on National Highways’ land. Considering the incentives embedded in the metric, this area is a high priority for ORR.
Approach to cost estimation	AMBER	MEDIUM	The approach to cost estimation for the ‘no net loss’ is simplistic and there is scope to target greater cost-efficiency in delivery. The 2% overlay for Major Projects is not evidenced. ORR may wish to monitor National Highways’ progress of costing the gains from Major Projects.
Readiness and deliverability	AMBER / RED	HIGH	As there is no mature pipeline of projects, we conclude National Highways is not ready to deliver its biodiversity programme, which is a high priority for ORR to monitor given the importance of the programme, which is associated with the only KPI of the environment plan. The programme should be deliverable.

Issue	Progress	Importance	Rationale
Achievability of KPIs and risks	AMBER	MEDIUM	The KPI is achievable, subject to the risks identified above. ORR should note that we have identified risks related to working with partners which (whilst essential to deliver better value for money and better outcomes) if not addressed early may lead to a deterioration in National Highways' readiness to deliver.

3. WATER QUALITY

Key findings

- National Highways is currently undertaking the verification of high-risk outfalls; and has a developing view of the outflows that it will seek to mitigate in RIS3. The resulting programme of mitigating 254 high-risk outfalls is considerably larger than in previous Road Periods.
- A high-level cost estimate (£450,000 per asset before inflation adjustment), based on historical costs, is utilised to determine the proposed budget allocation.
- Although it has recently appointed a technical advisor to help accelerate the programme, there are significant risks associated with the step up in volume. These early-stage plans need to be developed further at pace given the large step up in delivery anticipated in RIS3 and slow progress in RIS2.
- The current high-level approach to costing also poses risks. Water quality schemes tend to be bespoke and involve a degree of stakeholder engagement and planning risk. National Highways will develop standardised designs with costings for the RIS3 programme, however, we consider that more can potentially be done to develop a bottom-up approach to scheme estimation that would provide more confidence on the estimates by reflecting the type of interventions required and the complexity of schemes.
- Schedule is also at risk given the current lack of preparedness and proposed step up in work. Back-end loading of works, as proposed in the dSBP, runs the risk that delay will push work into the next Road Period.

National Highways has a legal duty under the Water Regulations (2017) and Environment Permitting Regulations (2016) to not pollute water courses. In order to meet this obligation and improve water quality, National Highways will mitigate confirmed high-risk outfalls from which run-off polluted water enters into the watercourses near the SRN. It has committed to do this by 2030 in its Environmental Sustainability Strategy.³³

Water quality is part of the Environment National Programme with £127m of funding allocated for the RIS3 programme of 254 high-risk outfalls.³⁴ 145 of these have been verified as high-risk, while the rest are still to be assessed. The number of forecast outfalls for mitigation in RIS3 is determined by National Highways' past experience. Approximately 10% of verifications have previously resulted in confirmation of a high-risk outfall. As of 2024, National Highways had calculated that there were 1,236³⁵ unverified outfalls with the potential of a further 109 outfalls being high risk.³⁶ The volume of expected work, and the allocated funding, makes water quality the most significant element of the Environment National Programme.³⁷ It is notable that the dSBP proposes that water quality will remain a PI, rather than becoming a KPI reflecting the context in which the National Programmes have been developed.

The planned programme of 254 outfalls is a significant step up to work undertaken to improve water quality in RP2. Although we do not know the number of outfalls that National Highways has addressed in RP2 (it is not publicly reported), we believe progress is slow based on the length of watercourse enhanced (39km over 2020/21 to 22/23³⁸). National Highways also addressed only 56 outfalls over the course of RP1.³⁹

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

Mitigating high-risk outfalls requires improvement in the form of capital interventions to intercept and treat any run-off polluted water. As a result, the quality of the water discharged to watercourses located nearby SRN is improved. This investment will contribute to the PI, measured as the length of watercourse enhanced, and support National

³³ National Highways (2024), *Draft Strategic Business Plan: Section A: National Programmes*.

³⁴ National Highways (2024), *Draft Strategic Business Plan: Section A: National Programmes*.

³⁵ Based on National Highways feedback on the draft report.

³⁶ National Highways (2023), *2030 Water Quality Plan: Mitigating High Risk Outfalls and Soakaways*. Available [online](#).

³⁷ National Highways (2024), *Draft Strategic Business Plan: Section A: National Programmes*.

³⁸ ORR, *Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023*. Available [online](#).

³⁹ National Highways (July 2020) "Strategic Report 2020: Our journey so far" available at nationalhighways.co.uk.

Highways in meetings its legal obligations. We consider that National Highways' plan to mitigate outfalls is sufficiently in line with the estimated costs and the expected outcomes.

It should be noted, however, that the PI does not reflect the volume of work required, which is measured as the number of outfalls. This introduces additional requirements in terms of monitoring progress, which we consider further in the section on risks and uncertainty related to the programme. National Highways is aware of this issue and is considering how the PI could be amended to better reflect the number of outfalls mitigated, in addition to the length of watercourse improved.

Evaluation of National Highways' approach to cost estimation

National Highways has informed us that its approach to cost estimation is based on a sample of RP2 schemes. The RP2 cost of mitigating an outfall is within the range of £250,00 - £450,000 per asset. Given the greater complexity of outfalls to be mitigated in RP3, National Highways has selected the upper bound estimate as its baseline for RP3 costs.⁴⁰ National Highways has acknowledged past experience to show that mitigation costs can vary from £50k to over £1m, depending on site constraints, the complexity of the solution and the potential for delivering other benefits, such as biodiversity enhancement.⁴¹ Temple has also noted that the approach to each outfall should be - location specific, with detailed design depending on multiple factors, e.g. the road catchment area; traffic volume; river dimension, flow rate and gradient; water hardness and the proximity to sensitive sites such as SSSIs among others.

After adjusting the cost per asset of £450,000 for inflation, National Highways total cost estimate came to ~£138m, which was then cut to £127.5m following a review by the Company's Executive Transformation Committee (ETC).⁴² At this budget and the target of 254 outfalls, National Highways has assumed ~£500,000 per asset.

In general, we consider the top-down approach to cost estimation to be a reasonable start point consistent with the early-stage development of the dSBP. Nevertheless, there does not appear to be any cross-check from bottom-up estimates. For example, it is unclear whether the cost estimate for the River Culm M5 outfalls scheme has been used to verify the approach (see case study in Box 1). As seen in this case study, the estimated scheme costs are much higher than the upper bound estimate adjusted for inflation. If RP3 projects are more complex, as National Highways is expecting, and the historical average is too low, there may be an incentive to focus on easier projects, leaving more complex projects to later Road Periods or a risk that the current provision is too low.⁴³

To improve the approach to cost estimation, we suggest that National Highways should utilise more complete information on costs to be used for developing bottom-up estimates of schemes collected within a database of schemes undertaken to date. This database would have costs for different types of solutions and the components of each water quality project. As a minimum, this exercise could be done for a few illustrative benchmark schemes. According to Temple, unit costs or a range of costs can be obtained for commonly used pollution prevention and treatment solutions, such as detention basin, grassed surface water channel, infiltration basin, swale and wetland.⁴⁴ This database of costs would better reflect the mix of different types of solutions likely to be used in upcoming schemes, providing a more nuanced cost estimate. In response to our draft report, National Highways told us that its technical adviser will develop a standardised design palette during 2024/25 for the RIS3 programme, which will involve costing designs that can be easily implemented to those outfalls where mitigation can be undertaken within the highway boundary. This will be aimed at speeding up delivery and rationalising costs.

Lastly, we raised a question about a potential overlap between maintenance and renewals of drainage assets and water quality in an RFI. We think there may be potential for deriving efficiencies from delivering improvements to water quality via the maintenance and renewal of drainage systems, since we would expect at least some high-risk

⁴⁰ RFI 28 response

⁴¹ RFI 58 response

⁴² RFI 28 response

⁴³ We note that the case study involves biodiversity benefits in addition to mitigating outfalls, which may help to explain the higher costs.

⁴⁴ Temple Group

outfalls to be located near drainage systems on the SRN. National Highways explained that while maintenance is essential to ensure functioning of the assets, the renewals and maintenance budget will not contribute to the Water Quality PI. Works that contribute to the PI are classified as improvements, requiring capital works to alter and change existing drainage arrangements. The need for improvements stems from historic design practices over the last 60 years, which have resulted in insufficient treatment built into the system.^{45,46} National Highways also told us that it will review any opportunities to align its drainage asset and water quality interventions during its 2024/25 planning round. However, we conclude that opportunities for efficient delivery have not been sufficiently considered in the production of the dSBP.

Does National Highways have a robust plan for the delivery of water quality improvements?

We are concerned that National Highways is not ready to deliver this sizable programme. Although it has started identifying locations of the high-risk outfalls, the programme is still in development. Given its work in RIS2, we would have expected to see a more established pipeline, providing a baseline of volume activity, the financial approvals required, assurance that landowner and stakeholder agreements are in place or progressing as well as timelines for the start of works at least for the first year of RIS3. National Highways has informed us that a technical partner was commissioned in March 2024 to manage the programme, verify 1,236 outfalls, and accelerate design work to be handed over to the Operations teams.⁴⁷ Nevertheless, the lack of an established programme and the proposed back-end loading of expenditure raise the concern that National Highways may start the next road period effectively from a standstill point.

National Highways might be more ready to deliver water quality improvements from Operations Directorate (OD) schemes. In addition to the works undertaken as part of the Environment National Programme, there are thirteen OD schemes, which are expected to contribute to the PI. These schemes have an estimated start of works in 2025/26, but a low to medium confidence in delivery. Most schemes would improve 0.5km of watercourse, with a few schemes having an expected contribution to a greater length of watercourse (1km and 2.5km).⁴⁸ While this demonstrates that some work has been done to develop a pipeline, significant contribution to the PI appears to only come from the National Programme.

In addition, National Highways current performance raises the question whether the size of RIS3 programme is unfounded in terms of overall capacity to deliver. Progress during RP2 appears slow based on the length of watercourse enhanced (39 km of watercourse during the time period of 2020/21 – 2022/23⁴⁹). National Highways 2030 Water Quality Plan dated 2023 sets out a proposed timeline for mitigating outfalls, and illustrates the back end loading of work in RIS3. This is likely due to verification of high-risk outfalls still taking place. Verification is expected to be completed by March 2025.⁵⁰ Overall the target and funding level set by National Highways anticipates a significant step up in progress during RP3 and the dSBP provides only limited confidence that this can be achieved.

We therefore consider this to be an area where closer ORR monitoring of early progress on named schemes will be important in RIS3. In particular, ORR should engage with National Highways to understand how the programme will be structured and how the delivery model will be formed. This should give ORR confidence on National Highways' progress without the need for extensive monitoring of individual schemes.

⁴⁵ RFI 29 response

⁴⁶ RFI 55 response

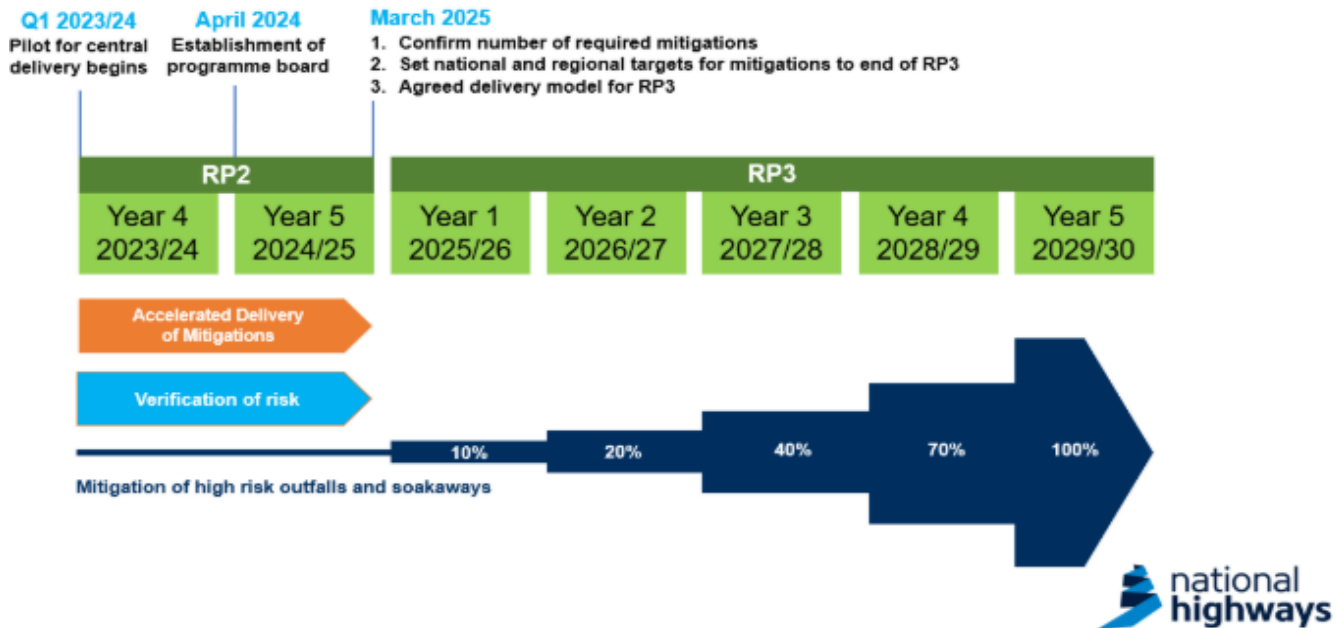
⁴⁷ Based on National Highways feedback on the draft report.

⁴⁸ RFI 26 response

⁴⁹ ORR, *Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023*. Available [online](#).

⁵⁰ National Highways (2023), *National Highways 2030 Water Quality Plan: Mitigating High Risk Outfalls and Soakaways*. Available [online](#).

Figure 3.1: Proposed timeline and key milestones for the water quality programme



Source: National Highways (2024), Draft Strategic Business Plan: Section A: National Programmes.

Are the proposed targets achievable and have the risks been assessed?

There are significant risks and uncertainties related to National Highways' programme of mitigating 254 outfalls, starting from identifying schemes:

- **Identification of high-risk outfalls:** At the moment, National Highways is still undergoing the verification of outfalls. While National Highways has information on the typical share of high-risk outfalls, there is no certainty that the outcome of verifications will follow this trend.
- **Reliance on stakeholders:** Another risk to the programme comes from the reliance on working with stakeholders and landowners to effectively address outfalls. This partnership nature of the programme – whilst essential to the delivery of better outcomes and being actively managed – has the potential to slow down progress, placing further pressure on delivery in the last years of RIS3. We would expect National Highways to provide assessment of these risks. The case study on River Culm M5 outfalls in Box 1 below illustrates the risk stemming from working with partners (this risk is also illustrated by the Saltram case study in Box 3).
- **Complexity of projects:** We have a minor concern about whether National Highways has yet given sufficient thought to striking an appropriate balance between outcomes and complexity of the projects (and the associated greater costs). National Highways has indicated that it expects projects to be more complex in RIS3.⁵¹ In an RFI response, National Highways explained that assets with a limited range of constraints, for which interventions are easier to deliver, have been selected in RP2.⁵² As easier outfalls have been addressed so far, National Highways may not have a thorough understanding of the work required in RIS3.

National Highways is aware of the risks detailed in this section and is already seeking to address them. For example, National Highways told us that it is targeting a small number of complex sites in 2024/25 to identify potential strategies for delivery and is planning to explore alternative delivery options for outfalls beyond its land with environmental regulators. However, considering the size of the programme, these risks are important for ORR to monitor. Additionally monitoring the PI alone will not be sufficient for monitoring progress, the PI measure does not reflect the volume of work to be undertaken (its focus is on KM of water courses not high-risk outflows mitigated). ORR will require additional information to monitor progress against the planned work and the PI. There

⁵¹ RFI 28 response

⁵² RFI 58 response

may be a case to amend the PI to be more reflective of the programmatic nature of the work (which National Highways is considering), and perhaps for it to have greater status in the performance specification given the associated expenditure.

Case study 1: River Culm M5 Outfalls

The River Culm, which is in poor condition, runs alongside the M5 for over 15km. National Highways has identified two high-risk outfalls from the M5, where run-off from the SRN is harming the condition of the river. In addition, the river is at risk of flooding, droughts and ecosystem depletion.

Objectives of the scheme:

- **Water quality:** Reduce risk at 2 high-risk SRN outfalls and create buffers to protect the river from diffuse pollution across the wider catchment.
- **Biodiversity:** Improve ecosystem condition and connectivity

Cost estimate for the scheme is £[><] with £[><]m for implementation during RIS3. The high value of the estimate is explained by the complexity of access arrangements, consents, third-party land costs and the multiple sites involved. Feasibility works were completed in January 2024 with detailed design estimated to take place from May 2024 to March 2025. Delivery, led by the Devon County Council, will be during RIS3.

Risks to the scheme proceeding include i) third-party land agreements, ii) Devon County Council continuing the project and ii) DF criteria and approval of funds for the project.

Key insight from case study: This case study demonstrates that joined-up thinking of the potential for addressing more than one outcome area in one scheme has taken place. Funding seems to have also been sourced from the Designated Fund, in addition to the National Programme, given the biodiversity benefits. While it is good practice to join up water quality interventions with biodiversity opportunities, the planning phase is not always straightforward for such schemes as it introduces the risk that progress is slowed by uncertainty about the eligibility or value for money (VfM) of funding from other sources.

The cost estimate is substantially above the RIS3 estimate of £500k per outfall (which in theory already accounts for the expected greater complexity of works).

Source: National Highways response to RFI 145

Summary of CEPA’s assessment of the water quality plan

Issue	Progress	Importance	Rationale
Line of sight	GREEN	LOW	We find that there are clear linkages between the requirements to improve water quality, planned activities, costs and outcomes. However, we raise the question whether the overlap between drainage and water quality has been sufficiently considered.
Approach to cost estimation	AMBER	MEDIUM	National Highways’ top-down approach to cost estimation is reasonable for the early stage of planning. We would expect the cost estimates to become more advanced over time and consider there to be scope to develop a database of costs for future use.
Readiness and deliverability	RED	HIGH	Considering the lack of a pipeline of projects, and RP2 performance, we are concerned that National Highways is not ready to deliver its programme and might struggle to address all 245 outfalls, given the scaling up of work required.
Achievability of KPIs and risks	RED	HIGH	The water quality programme has significant risks associated with it relating to identification of outfalls, working with stakeholders and monitoring progress. We have not seen enough evidence that National Highways has effectively mitigated these risks. In addition, the deliverability of the ambitious programme is not well justified.

4. NOISE

Key findings

- National Highways now has considerable experience in delivering noise mitigation. However, its current rate of delivery is behind the trajectory to meet its RP2 target: 38% of the target needs to be mitigated over the final 18 months of RP2.
- National Highways understands the risk and challenges that the programme holds, but it has not yet developed a detailed plan for RIS3 which means that any specific challenges have not yet been considered.
- The lack of a more detailed plan means that we conclude that there is not a clear line of sight between the plan, its cost and impacts on the target.
- The programme will be limited by the budget allocation. National Highways' top-down figure of £7,200 per household is built on experience, but we think there is scope to apply a modest efficiency challenge which will facilitate a higher target in RP3 than that which the Company has proposed in the dSBP.
- We also consider it hard to understand why there is no detailed plan for an ongoing activity that National Highways has been working on for many years. This approach might lead to back-end loading of the RIS3 programme with a risk that work will not be completed on time; a challenge across the board. Better planning would also present the opportunity to coordinate noise works with wider resurfacing works funded in the RIS. We recommend that ORR do more now to ensure that National Highways can hit the ground running in RIS3.

Noise from the vehicles using the SRN can affect the quality of life, health and wellbeing of those who live close to the network. Although National Highways does not have a legal obligation to reduce noise, it has a role in delivering the UK government's 25 Year Environment Plan and 2019 Noise Action Plan.^{53,54} Over the past two Roads Periods, National Highways has been working to mitigate the impact of noise on local communities through its Designated Funds. It has several levers at its disposal:

- **Road surfaces.** The main source of noise on high-speed roads is the pavement–tyre interface. National Highways can address this by installing lower noise asphalt surfaces when it resurfaces sections of the network.⁵⁵
- **Noise barriers.** These are fences which extend the path length of noise between the SRN and nearby properties. They can be effective at reducing noise in areas close to the SRN but are less effective the further away the area is from the carriageway.
- **Noise insulation.** Where it would be uneconomic (because of the low number of affected properties) or practically infeasible to install noise barriers, National Highways offers to insulate houses with upgrades to windows and ventilation systems which can reduce the exposure to noise inside the property.

Over the course of RP1, National Highways mitigated 1,174 Noise Important Areas⁵⁶ but its reporting metric was changed for RP2 to focus on the number of households mitigated. Over the first three years of RP2, National Highways had mitigated 4,163 households and we understand that by the mid-point of Year 4 it had mitigated a further 456. It's KPI target for RP2 is 7,500 households, so it has to mitigate a further 2,881 households (38%) over the final 18 months of the Road Period in order to achieve this.

For RIS3, National Highways is proposing that noise reduction will be funded via a dedicated £45m National Programme rather than through use of Designated Funds. The dSBP does not explain this change in approach, but we assume that it is because National Highways intends to take a more flexible approach to the Designated Funds

⁵³ National Highways (2024), *Draft Strategic Business Plan: Section A: National Programmes*.

⁵⁴ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

⁵⁵ Resurfacing only counts towards the Noise KPI when it is funded via the Designated Funds (now the National Programme), where it is used to bring forward resurfacing to provide earlier benefits to local communities.

⁵⁶ Noise Important Areas are designated by Defra based on strategic noise mapping exercises to identify residential locations along the SRN with the highest levels of noise.

in RIS3, whilst ensuring that noise has its own dedicated funding line. We discuss our observations on this approach further below.

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

National Highways is proposing that noise will become a PI for RIS3 (rather than a KPI) and expects to be able to mitigate noise impacts for up to 6,250 households over the five-year period. At the time of writing, the RIS3 Performance Specification has not been agreed with DfT so we cannot assess whether it is aligned with DfT's emerging position (although we do comment below on whether it is sufficiently challenging).

Our review did identify a concern with the dSBP in that there does not appear to be a written plan for the delivery of the 6,250 households in RIS3. National Highways told us that it expects to deliver a broadly similar approach in RIS3 as it has carried out in RIS2, with a broadly similar mix of resurfacing, barrier and insulation schemes. But we were also told that a pipeline of schemes does not yet exist and that is a concern given the planning and development timescales for resurfacing projects and noise barrier installations. National Highways told us that the work to develop the programme is ongoing and scheduled for completion by the end of RP2⁵⁷ but the incompleteness of the plan at the present stage means that we conclude that there are not yet clear links between costs, activities, outputs and outcomes.

Evaluation of National Highways' approach to cost estimation

National Highways has assumed that the average cost of noise mitigation per household is £7,200, which reflects the planning assumption that is used for RIS2 (£6,000) plus a 20% adjustment for inflation.⁵⁸ Multiplying the average cost of noise mitigation per household (£7,200) by the expected number of households (6,250) equates to National Highways' allocated budget of £45m.⁵⁹ The dSBP notes that the number of households mitigated is driven by the available budget, rather than any other way (in part because there is no legal obligation in this space).⁶⁰

We do not have any major concerns with National Highways' top-down approach to cost estimation given the experience that National Highways now has. National Highways told us that the actual average cost of noise mitigation per household during RP2 is estimated at £7,175⁶¹, although it notes that the average cost might fall as the remaining projects in RP2 are mainly resurfacing schemes. However, whilst National Highways has accounted for headwinds (i.e. inflation) it has not considered offsetting opportunities (e.g. efficiencies from a learning by doing effect). We think that there is scope for ORR to apply an additional efficiency challenge, either in the form of a reduced National Programme (in £ terms) or a more stretching performance target. If National Highways could achieve a 0.5% efficiency saving per year, the average cost of noise mitigation per household would be reduced to around £7,000. A £45m budget would then stretch to around 6,430 households over RP3.

Finally, we note that there are synergies between the renewals budget and the National Programme fund for noise because most resurfacing works are funded through the renewals budget but do not count towards the KPI, even if low noise surfacing materials are used. National Highways told us that renewals funded resurfacing schemes do not count towards the metric because the location of resurfacing works are typically determined less than a year ahead, and this makes it more challenging to plan noise mitigation works.⁶² But in our view, ORR should encourage National Highways to adopt longer-term planning approaches and expect it to consider the potential synergies between closely related programmes. In turn, this would reduce the average cost of noise mitigation per household in future Roads Periods.

⁵⁷ RFI 26 response

⁵⁸ Cumulative CPI inflation between 2020 and 2024 is equal to 20% so this adjustment is consistent with outturn inflation.

⁵⁹ RFI 27 response

⁶⁰ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

⁶¹ National Highways also told us that the average cost increases to £11,431 if resurfacing is excluded – see response to RFI 47.

⁶² RFI 29 response

Does National Highways have a robust plan for the delivery of noise improvements?

A robust plan is one which has considered the key risks to delivery and can withstand and adapt to change. We are concerned that National Highways does not appear to have documented a delivery plan for noise, especially given the experience and appreciation of risks it has gained across RP1 and RP2. We recommend that ORR uses its ongoing engagement with National Highways on its noise performance in RP2 to require the development of a documented plan for RP3, ensure that momentum is carried over and lessons are learned from RP2, and to encourage a longer-term approach to planning.

National Highways identified a pipeline of schemes for RIS which gives it confidence that it will achieve the target of 7,500 households mitigated – noting that its actual performance to date is behind the required trajectory (4,163 households (or 55%) over Years 1 to 3).⁶³ Given that the proposed RIS3 target is lower than in RIS2, its current confidence in the RIS2 plan suggests that it should be deliverable.

Are the proposed targets achievable and have the risks been assessed?

As we note above our view is that the proposed target is achievable and we consider that there is scope to increase the target further by imposing a modest efficiency challenge on National Highways' assumed average cost of noise mitigation per household.

Based on our previous experience of engaging with National Highways on noise issues, we understand that the key risks to the achievability of the target are:

- Feasibility and value for money of noise barriers is typically location specific. Whilst we expect, based on what National Highways has told us, that there remain NIA sites where it intends to investigate the appropriateness of noise barrier solutions, there may be an incentive to tackle the most straightforward sites first and defer more marginal cases until future Road Periods.
- The intersection between road sections which need resurfacing due to asset age and/or condition and opportunities to mitigate NIAs may be limited, but in our view this risk can be mitigated through longer-term and more integrated asset planning approaches.
- Occupants of properties affected by noise from the SRN may be reluctant to engage with National Highways' offer of noise insulation improvements. However, given the experience that National Highways has gained in running the insulation programme in RP1 and RP2, it should by now have a good understanding of how to encourage engagement with the scheme through its marketing and outreach activities.

National Highways should have an understanding of the risks related to the noise reduction programme, given its considerable experience. However, the lack of a mature plan suggests that these risks have not been addressed for the RIS3 programme.

⁶³ ORR, *Table 4: Delivering Better Environmental Outcomes, England, April 2020 to March 2023*. Available [online](#).

Summary of CEPA's assessment of the noise plan

Issue	Progress	Importance	Rationale
Line of sight	AMBER	LOW	Line of sight is not a priority issue for engagement between ORR and National Highways, but the incompleteness of the plan at the present stage means that we conclude that there are not yet clear links between costs, activities, outputs and outcomes.
Approach to cost estimation	AMBER	MEDIUM	National Highways' top-down approach to cost estimation is not unreasonable and is informed by its approach to costing RP2. But we think there is scope to adopt a modest efficiency assumption of ~0.5% per year to achieve an average cost of £7,000 per household by learning from previous delivery.
Readiness and deliverability	RED	MEDIUM	National Highways does not appear to have a documented plan for the delivery of noise improvements in RIS3 and this represents the most significant risk to early progress.
Achievability of KPIs and risks	GREEN	LOW	Despite the lack of a documented plan, in our view the proposed target is achievable and we think there is scope to increase the target further by imposing a modest efficiency challenge on National Highways' assumed average cost.

5. AIR QUALITY

Key findings

- National Highways has limited ability to influence improvements in air quality on the SRN. For example, it cannot control emission standards.
- It has explored options such as on ongoing scheme to facilitate take up of electric vans through grants and relocating receptors, by changing the route of footpaths. However, the dSBP does not discuss in detail activities such as speed trials or facilitating take up of EVs via provision of charging which may be beneficial.
- It has allocated £11m of designated funds to this activity in RIS3. The objective of the air quality funding should be confirmed given National Highways' otherwise limited ability to deliver meaningful progress towards the UK's emissions targets.
- There is no programme of work in the dSBP; National Highways explicitly plans to react to requests from others, e.g., local stakeholders.
- A key issue is the potential for projects which focus on air quality alone to be poor value. There is a need to be mindful of that when assessing options, which National Highways has acknowledged.

The European Union emissions limit values derived from the Ambient Air Quality Directive (2008/50/EC)⁶⁴ were transposed into English and Welsh law as air quality standards via the Air Quality Standards Regulations 2010⁶⁵, as amended⁶⁶. These limit values, which apply to the SRN, are:

- PM₁₀ – a maximum annual mean concentration of no more than 40µg/m³; and a 24 hour mean concentration of 50µg/m³ not to be exceeded more than 35 times a year.
- NO₂ – a maximum annual mean concentration of no more than 40µg/m³; and an hourly mean concentration of 200µg/m³ not to be exceeded more than 18 times a year.
- PM_{2.5} – a maximum annual mean concentration of 20µg/m³.

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 set the following legally binding targets to be met by 2040:

- Annual mean concentration target of 10µg/m³; and
- Population exposure reduction target of 35% compared to 2018 exposure.

The Environmental Improvement Plan 2023⁶⁷ set interim targets to be met by the end of January 2028:

- Annual mean concentration target of 12µg/m³; and,
- Population exposure reduction target of 22% (compared to 2018 exposure).

Also under the Environment Act 2021, National Highways has been designated by the Environment Secretary as a 'Relevant Public Authority' which is required to co-operate with local authorities acting as an 'Air Quality Partner' within the Local Air Quality Management Framework and is intended to deliver a "more consistent approach to meeting local air quality objectives on road networks."⁶⁸

To contribute towards local air quality improvements, National Highways proposes to utilise £11m of Designated Funds.

⁶⁴ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe. European Commission.

⁶⁵ The Air Quality Standards Regulations 2010.

⁶⁶ The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020.

⁶⁷ Defra (2023) "Environmental Improvement Plan 2023: First revision of the 25 Year Environment Plan".

⁶⁸ Defra (August 2022) "Package of measures introduced to improve air quality" available at [gov.uk](https://www.gov.uk).

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

Although National Highways recognises its requirements, which arise from its role as a designated local ‘Air Quality Partner’ and the commissions issued by the DfT to support the Government’s plan⁶⁹, it considers that it has limited ability to influence air quality on the network as it cannot restrict road user access. As an ‘Air Quality Partner’, it plans to focus its efforts in RP3 on projects that provide local benefits and respond to specific stakeholder needs. National Highways is yet to develop potential workstreams for RIS3. It will also continue to respond to DfT’s commissions, which target areas where air pollution is the highest. For the commissions National Highways has adopted a standard that the measures should bring compliance with the NO₂ limit forward by at least one year.⁷⁰ In addition, National Highways has told us that any activities need to be supported by evidence and possible to implement safely on the SRN⁷¹ For example, it has an ongoing programme of work in Guildford to tackle particularly poor air quality levels in areas in the vicinity of the A3.

Whilst we accept that National Highways has very limited levers over air quality, we find that the dSBP lacks much (if any) discussion of:

- Findings from speed limit trials. Researchers at the University of Birmingham studied speed reductions on the M6 (between Junctions 6–7) and the M5 (between Junctions 1–2) reporting that local air quality dispersion modelling results show that reducing average travel speed by 10mph (from 70mph to 60mph) could reduce roadside NO₂ concentrations by an estimated 7%-12% and fine particulate matter (PM_{2.5}) levels by 0.7%-1% (compared with 2019 levels), with benefits up to one kilometre away.⁷² The Company is currently undertaking its own analysis of emissions alongside the M1 with the aim of isolating the impact of 60mph speed limit on NO_x and NO₂ concentrations.
- National Highways’ role in supporting the transition to electric vehicles, where there is scope to facilitate the extension of EV charging infrastructure to sites close to the SRN to help combat ‘range anxiety’ a key factor in vehicle take-up. Outside of the RIS, we acknowledge that National Highways is also supporting the delivery of the much delayed Rapid Charging Fund.
- Its engagement with Local Authorities on the development of local strategies to improve air quality.
- Plans to extend incentives on its maintenance and construction supply chain to accelerate the take-up of less polluting vehicles, plant and equipment on National Highways’ worksites.

Acknowledging that this is a highly challenging area for National Highways, we conclude that there is an important need for ORR and DfT to engage on DfT’s objectives for this funding. Because unless National Highways is expected to play a more prominent role in the expansion of a public EV charging network, its ability to deliver meaningful contributions towards the UK’s emissions targets is limited and the value delivered by the funds is likely to be poor.

Evaluation of National Highways’ approach to cost estimation

National Highways does not have an overarching approach to cost estimation for air quality initiatives, as the plan will be reactive to as yet unidentified opportunities as they arise. National Highways states that it will challenge the costs of any initiatives which are considered during RIS3 to ensure that value for money can be improved on schemes which typically exhibit (by National Highways’ own admission) very poor value for money when they focus on air quality improvements in isolation from other environmental and social benefits.

⁶⁹ DEFRA and DfT (2017) “Air quality plan for nitrogen dioxide (NO₂) in UK (2017)”.

⁷⁰ Based on National Highways feedback on the draft report.

⁷¹ RFI 49 response

⁷² University of Birmingham (June 2023) “Reducing motorway speed may improve air quality – but more real-world studies are needed” available at [birmingham.ac.uk](https://www.birmingham.ac.uk).

We note that by limiting the available funding to £11m, it should be easier to guard against particularly poorly justified initiatives relative to RIS1 and RIS2. However, if DfT’s objective is to that the RIS3 Statement of Funds Available (SoFA) should be used to achieve meaningful progress towards the UK’s legal air quality limits (e.g. by accelerating the expansion of a public EV charging network infrastructure along the SRN) then £11m is insufficient to have any meaningful impact except in very localised areas where air pollution is a significant problem.

Does National Highways have a robust plan for the delivery of air quality improvements?

National Highways told us that it does not yet have a firm plan for the delivery of air quality projects in RIS3, and that it intends for its approach to be flexible in response to proposals that come forward from Local Authority partners. However, it provided two examples of the types of projects that it is currently exploring and which might also feature in RIS3:

- **Support for Electric Vans.** National Highways is providing £11m of grant funding to the Guildford project of the Electric Towns and Cities Initiative, which has three components. First, it offers grants of up to £10,000 to businesses that drive on the A3 in Guildford and switch to fully electric vans. Second, it is funding the installation of a local rapid charging network specifically designed for vans, with dedicated bays and cables. And third, there is an active travel programme to help employers promote more sustainable transport options to their employees. National Highways told us that, as of April 2024, 24 electric vans had been purchased and further 22 vouchers issued.⁷³
- **Air quality barriers.** These are tall fences installed at the edge of major roads to interrupt the air flow between the SRN and nearby activities, to push pollution higher and disperse it over a wider area. Air quality barriers can work well where the prevailing wind direction and topographical features are favourable, and there are people and activities immediately behind the barrier. However, there many instances where air barriers are ineffective and, given the capital costs, they typically provide low or poor value for money.

In addition, National Highways plans to support Local Authorities in delivering their Air Quality Action Plans. No programme has been developed, as these activities will be responsive to local needs.⁷⁴

Case study 2: A3 Guildford Air Quality Barrier

The site was one of 101 sites in the first Air Quality Commission from DfT. This commission identified areas where National Highways needs to improve air quality to support the UK government’s national NO₂ targets. The A3 in Guildford has the highest annual mean of NO₂ of these sites, with an annual mean of 78 µg/m³ in 2022 (above the legal limit of 40 µg/m³). Following an assessment of the air quality conditions and other factors affecting likely viable options, Operations Area 3 was commissioned to identify if air quality barriers could be installed at this location. Feasibility and design work is ongoing, but if the project ultimately proceeds it should help bring forward the date this A3 link can be declared compliant with the limit value for NO₂.

Alongside investigation of an air quality barrier, initial sifting of options has identified a range of ancillary works including the closure of the existing path along the east of the A3, and improvements to both the surface and accessibility of alternative footway routes in the local area. The estimated total cost of these improvements is currently £[>]m of which £[>]m will be incurred in RIS3.

National Highways expects feasibility work to be completed in summer 2024 and it has approval to commence detailed design works thereafter. Implementation is expected to start in spring 2025 with completion in 2025/26.

There are several risks which may affect the scheme’s progress:

- **Feasibility.** Air quality barriers may not be effective in Guildford given that pollution sources are dispersed across the urban area. Implementing air quality barriers may entail significant costs and carbon emissions from installation and maintenance.

⁷³ RFI 134 response

⁷⁴ National Highways (2024), *Draft Strategic Business Plan: Section A: Designated Funds*

- **Negotiating with the local authority and obtaining funding.** The scheme requires a section 4 agreement from the local authority, as it involves works on land owned by the local authority. Discussions are expected to begin in summer 2024.
- **Stakeholder reactions.** National Highways is also expecting some concern from local stakeholders about the closure of a footpath, which may influence the final design.

National Highways own assessment of confidence in delivery is ‘medium’ but it expects the scheme to proceed in RIS3. It notes that there is some uncertainty around RIS3 funding levels, which may delay the scheme.

Key insight from case study: This scheme is an example of National Highways’ focus on local areas where air pollution is particularly high and problematic. We have limited information on the scheme, so it is not possible to assess the strength of its business case. But it shows recognition of a much larger number of sites where air quality is an issue and perhaps a longlist of other potential actions could be developed. Looking at scheme costs, National Highways may not be able to address many of other sites with the £11m allocated to air quality.

Source: National Highways response to RFI 147

Are the proposed targets achievable and have the risks been assessed?

We note that National Highways is proposing that air quality should continue as a PI in RIS3. Although it has air quality duties and responsibilities under UK legislation, we do not interpret the air quality limit values as ‘targets’ which National Highways plans to use RIS funding to deliver in the same way as other performance metrics.

In that context, we flag that the air quality legal limits are unlikely to be achievable by 2030 given traffic growth forecasts, the current rate of sales of new electric vehicles, and National Highways very limited levers over air quality on its network.

Summary of CEPA’s assessment of the air quality plan

Issue	Progress	Importance	Rationale
Line of sight	RED	MEDIUM	The objective for any air quality funding needs to be confirmed, because National Highways’ ability to deliver meaningful progress towards the UK’s emissions targets is limited and the value delivered by the funds is poor.
Approach to cost estimation	GREEN	LOW	National Highways does not have an overarching approach to cost estimation for air quality initiatives, as the plan will be reactive to as yet unidentified opportunities as they arise. But National Highways plans to challenge costs to ensure that value for money on generally weak schemes can be improved.
Readiness and deliverability	AMBER	MEDIUM	National Highways has not yet identified a package of schemes for delivery in RIS3. In previous Roads Periods, National Highways has found it challenging to spend its air quality funding and to deliver the expected volume of outputs.
Achievability of KPIs and risks	RED	MEDIUM	The UK’s air quality legal limits are unlikely to be achievable at many sites along the SRN by 2030 given traffic growth forecasts, the current rate of sales of new electric vehicles, and National Highways very limited levers over air quality on its network.

6. CULTURAL HERITAGE

Key findings

- National Highways is responsible for a range of cultural heritage assets that are on or adjacent to its network. It has estimated that approximately 900 CHUs are required to bring all the assets into 'adequate' condition.
- National Highways has created assets management plans - CHAMPS, which detail the condition of the assets and recommendation for repair and maintenance.
- Although the CHAMPS provide information on the condition and value of each asset (which are used to derive CHU scores for each asset), the CHAMPS we reviewed do not provide CHU values nor do they provide a clear and obvious link to the target of 900 CHUs.
- Despite making very limited progress against this PI in RIS2 National Highways has proposed a large scaling up of work. We are unable to assess whether this is reasonable given the limited information that National Highways has made available and conclude that undertaking less work and combining it wherever possible with other roadside activities e.g. maintenance, may present a more realistic option for RIS3.

National Highways intends to undertake a programme to bring cultural and heritage assets on land on or adjacent to its network back into adequate condition (where their condition has deteriorated) and then conserve them. The requirement to improve the condition of cultural heritage assets stems from the Protocol for the Care of the Government Historic Estate 2017, which requires government departments to protect heritage assets.

National Highways identifies and documents the location and status of all cultural heritage assets in a CHAMP for each of its Operations Areas. Whilst there are a broad variety of cultural heritage assets along the SRN, a substantial portion of the assets identified in the sample of CHAMPS we reviewed as part of this study are milestones, bridges and other small structures of architectural interest, and wayside crosses (see Figure 6.1 below). Where works are required to restore these assets, it generally involves the clearance of vegetation, cleaning and repainting, and small repairs.⁷⁵

Figure 6.1: Stone wayside crosses in the South West region



Source: National Highways (2022) Cultural Heritage Asset Management Plan – Area 1 and 2

The dSBP includes £11m of National Programmes funding for restoring cultural heritage assets which National Highways will use to:

- Identify opportunities and implement a programme of improvements to enable road users to better understand and appreciate the culture and heritage of the areas they are travelling through.

⁷⁵ National Highways (2024), *Draft Strategic Business Plan: Section A: National Programmes*.

- Implement a programme of improvements to cultural and heritage assets close to its network.
- Identify opportunities and implement a programme to improve the condition of cultural and heritage assets on its network, with the aim of achieving at least ‘adequate’ condition.⁷⁶

National Highways proposes to retain the cultural heritage PI for RIS3, where performance is measured based on CHUs which is the product of the condition and distinctiveness score for each cultural heritage asset listed on National Highways’ estate, summed across all assets. We understand that National Highways started RIS2 with a baseline of 51,568 CHUs and has achieved an increase of 46 CHUs over the first three years of the Roads Period. For RIS3, National Highways proposes a target increase of 894 CHUs which it says equates to achieving ‘adequate’ condition across all assets identified in the CHAMPs which require restoration.⁷⁷

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

National Highways told us that the CHAMPs identify the actions and priorities for delivery in RIS3. So, as part of our review, we studied the CHAMPs for Areas 1 and 2 (South West); 12; and 14 (North East). We found that all the assets within the area, their condition and recommended actions, have been identified, so the CHAMPs provide the foundation on which interventions can then be investigated and planned. But the CHAMPs do not provide information on the CHUs associated with each asset or identify what the impact on the CHU score would be if that asset was restored to ‘adequate’ condition. In response to our draft report, National Highways challenged this finding but did not provide an example CHAMP where such information was present. At a future date, ORR may wish to investigate this further. At the present time, we conclude that in their current form the CHAMPs do not provide the basis for prioritisation of cultural heritage funding, nor do they provide clear line of sight through to the proposed target of 894 additional CHUs in RIS3.

Given the characteristics of the typical range of cultural heritage assets identified in the CHAMPs, which are dispersed across each Area, we suggest that it would be uneconomic to undertake restoration works in a targeted fashion. An efficient plan would seek to identify opportunities and synergies between the activities needed to restore cultural heritage assets with routine maintenance activities on other local assets, including but not limited to the soft estate. Aside from a few examples where cultural heritage works have funded alongside other improvements via the Designated Funds (e.g. biodiversity and SSSI projects as per the Saltram House case study below) the dSBP does not discuss how National Highways has sought to maximise such opportunities.

Case study 3: The Future of Saltram NT Partnership

The scheme was aimed to improve access to land around Saltram House adjacent to the A38 (but not on land owned by National Highways), in addition to other improvements such as new visitor facilities. The scheme objectives included biodiversity and cultural heritage improvements amongst other benefits, such as improved access and green travel connections. However, the Woodland Trust did not support improving access to Hardwick Woods. Without this element, the scheme was rendered unviable due to low VfM.

National Highways has recommended the National Trust, who was responsible for the delivery of the scheme, to submit separate applications for the rest of the scope, as well as for the Stag Lodge Gates Conservation (Cultural and Heritage Project). However, the scheme is currently not going forward in any form. £136,000 has been spent on feasibility works to date.

Key insight from case study: National Highways recognises the benefits of working with partners. This can support efficient and timely delivery where National Highways has limited internal capacity. But working with third parties and interested stakeholders also brings stakeholder risks which need to be managed. This case study demonstrates how projects can be delayed and/or cancelled if agreements on requirements, designs and funding shares cannot be reached. National Highways cannot guarantee the commitment of partners in all cases.

Source: National Highways response to RFI 146

⁷⁶ National Highways (2024), *Draft Strategic Business Plan: Section A: Environmental Sustainability and Carbon*.

⁷⁷ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

Evaluation of National Highways' approach to cost estimation

National Highways has produced the dSBP estimate based on a sample of 25 RIS2 cultural heritage projects where the median cost per CHU was £[redacted] – although it notes that the cost depends on the nature of the asset and whether traffic management is required, leading to considerable variation between cost per CHU.⁷⁸ National Highways also notes that the nature of projects is being further analysed in order to better define the achievable increase in CHUs given the budget.⁷⁹

National Highways then applied an inflationary adjustment to this median cost, although it does not state what adjustment it applied. Elsewhere it uses an adjustment of around 20%, which is not unreasonable given CPI inflation between 2020 and 2024. This would generate an inflation adjusted unit cost of £[redacted]. Multiplied by the target of 894 CHUs results in required funding of just over £11m.⁸⁰

Whilst this 'top-down' approach is not unreasonable, the plan does not contain sufficient detail to demonstrate that it is economic and efficient. In our view, cultural heritage is presented as a standalone deliverable in the dSBP, when in fact it would be better integrated with plans for maintenance and other environmental improvements. Whilst this may be partly a presentational issue given the early draft status of the dSBP, we recommend that ORR seeks further justification from National Highways for the efficiency of the £11m funding line.

Does National Highways have a robust plan for the delivery of cultural heritage improvements?

In our view, the dSBP lacks any detail which we could analyse to assess whether it is the basis of a robust plan. Additionally, the CHAMPs are the starting point for a plan of action, but do not form the basis of a prioritised plan which is robust to changes in circumstance and external risk factors.

We note that over the first three years of RP2, National Highways undertook 48 projects which led to an increase of 46 CHUs.⁸¹ We also note that National Highways had delivered a further 14 projects during Year 4 of the Road Period, although this is not a final figure. In that context, National Highways' ambition for RIS3 is a substantial step-up in cultural heritage activity. We are not particularly concerned about deliverability, given that most of the interventions required appear relatively small scale. But we conclude that this is an area of the dSBP where the justification for the proposed levels of activity and required funding is particularly lacking.

Are the proposed targets achievable and have the risks been assessed?

Based on RP2 performance to date (only 46 CHUs delivered) and the absence of a plan in the dSBP, National Highways' plan to deliver 894 CHUs is unevidenced. It is unclear how it will be integrated with other maintenance and environmental activities, and therefore we conclude that there are obvious risks to the achievability of the target.

Separate from any decision on whether cultural heritage should have a discrete funding line (either via a National Programme or funded out of a reduced but more flexible approach to Designated Funds) or funded from efficiency savings elsewhere in the plan, we recommend that the ORR engages with National Highways before the start of RIS3 to better understand how it plans to deliver such a significant increase in CHUs. In the absence of an updated and more detailed plan from National Highways, we also recommend that ORR's advice to the Secretary of State proposes a substantially reduced target – perhaps reducing it to half of National Highways' proposal (450 CHUs).

⁷⁸ RFI 61 response

⁷⁹ RFI 61 response

⁸⁰ One of National Highways' RFI responses refers to a calculation of £12.5m post-inflation, which it then constrained to £11m in order to present what it considers to be an efficient plan. However, we could not replicate the £12.5m figure which suggests either that National Highways applied an inappropriate inflationary uplift, or it incorporated some other unjustified risk provision.

⁸¹ ORR (November 2023) "Data table 4F – Outcome area 4: Delivering better environmental outcomes" available at [orr.gov.uk](https://www.orr.gov.uk).

Summary of CEPA's assessment of the cultural heritage plan

Issue	Progress	Importance	Rationale
Line of sight	RED	HIGH	The CHAMPs provide the foundation on which interventions can then be investigated and planned. But they do not set out the CHUs associated with each asset or identify what the impact on the CHU score would be if that asset was restored. In their current form the CHAMPs do not provide the basis for prioritisation of cultural heritage funding, nor do they provide clear line of sight through to the proposed target.
Approach to cost estimation	AMBER	HIGH	In our view, cultural heritage is presented as a standalone deliverable in the dSBP, but it would be better integrated with plans for maintenance and other environmental improvements, and it could be funded out of efficiency savings elsewhere.
Readiness and deliverability	AMBER	MEDIUM	The dSBP lacks any detail which we could analyse to assess whether it is the basis of a robust plan. We are not particularly concerned about deliverability. But we conclude that this is an area of the dSBP where the justification for the proposed levels of activity and required funding is particularly lacking.
Achievability of KPIs and risks	RED	HIGH	Based on RP2 performance to date (only 46 CHUs delivered) and the absence of a plan in the dSBP, we think that National Highways' plan to deliver 894 CHUs is unevidenced.

7. SITES OF SPECIAL SCIENTIFIC INTEREST

Key findings

- SSSIs are a new outcome area for RIS3 but we expect the work undertaken to restore SSSIs into ‘favourable’ condition to have material overlap with other environmental outcomes e.g. biodiversity and water quality. In addition, significant stakeholder engagement, e.g., with other riparian landowners, is expected to be required.
- Given the complexity of work, National Highways’ plans are not yet well formed and appear ambitious.
- National Highways’ top-down cost estimates, based on work in RIS1, maybe overly simplistic given the range of activities that can be involved in addressing an SSSI.
- Offsetting the risk in these estimates is the opportunity to align works with those in other outcome areas but National Highways does not appear to have systematically considered the potential for synergies.

The focus on conserving and protecting the habitats of SSSIs is a new outcome area in RIS3. Section 102 of the Environment Act 2021 amended the existing general duty under the Natural Environment and Rural Communities Act (2006), which was focussed on conservation of biodiversity. The amendment extended the existing requirements on public authorities to include ‘enhancement’ of biodiversity.⁸² National Highways has responded to this by proposing to ensure that all of its SSSIs are in ‘favourable’ condition within RIS3. Currently, there are 68 SSSIs in unfavourable condition owned fully or partially by National Highways, which are to be addressed during RIS3.⁸³ In addition, 107 sites require works to maintain their favourable status.⁸⁴

Is there clear alignment between the dSBP and emerging RIS3 performance requirements, as well as statutory responsibilities?

Management plans are being developed for all SSSIs in National Highways’ ownership. The majority of the sites in unfavourable condition are river systems where National Highways owns a small reach of the overall watercourse⁸⁵ In general, the nature of SSSIs sites varies, with required interventions potentially contributing to multiple outcomes including biodiversity and water quality. National Highways has noted that this overlap between other outcome areas is material, with mitigation of outfalls and soft estate management being particularly important to returning SSSIs to favourable condition.⁸⁶ In addition, National Highways will likely have to work in close partnership with other stakeholders.

Based on the dSBP and RFI responses, we have not seen evidence that National Highways yet has a developed understanding of the scope of work required. There is therefore no clear link between the scope of the programme, the funding required and how an improvement in the condition of the 68 sites it targets is to be achieved. We are particularly concerned of the lack of joined-up thinking in the current iteration of the dSBP, given the likely benefits in multiple outcome areas.

Evaluation of National Highways’ approach to cost estimation

The cost of improving SSSIs is different for achieving favourable condition and maintaining a site already in favourable condition. In an RFI response, National Highways told us that it has assumed the following average per site costs – although the response was unclear whether this reflects costs in RP1, RP2 or across both:

- Work to bring unfavourable SSSI’s to favourable condition: £[><]
- Maintenance work to retain ‘standard’ SSSIs as favourable status: £[><]
- Maintenance work to retain ‘Historic’ SSSIs as favourable: £[><]

⁸² Temple Group

⁸³ National Highways (2024), *Draft Strategic Business Plan: Section C: Investment Plan Analysis*.

⁸⁴ RFI 28 response

⁸⁵ RFI 26 response

⁸⁶ Based on National Highways feedback on the draft report.

102 of the sites requiring maintenance work during RIS3 are ‘standard’ sites, with historical cost per site nearly as high as for improving the condition of a site. Using the historical costs, National Highways has applied an inflation adjustment and a 10% risk contingency to account for unforeseen delays, oversights and unidentified issues, bringing the total to £[>]m. This was then constrained on review to £22.0m.⁸⁷ The estimate accounts for improving the condition of the 68 sites as well as maintaining an additional 107 sites.

The cost estimation relies on the average cost from RP1. We have no information on the type of sites that were addressed in previous Road Periods, and whether they reflect the expected complexity of RIS3 schemes. However, we think it is unlikely that the simple cost estimates reflect the diversity of SSSIs and the interventions required.

Lastly, National Highways should aim to derive cost efficiencies from a more joined-up delivery with other environmental outcomes. The dSBP generally lacks a demonstration that National Highways is thinking of how to effectively deliver interventions that span outcome areas. Although we have seen this in the case study in Box 1 for biodiversity and water quality.

Does National Highways have a robust plan for the delivery of SSSI improvements?

We are concerned about National Highways’ readiness to deliver SSSI improvements and maintenance in RIS3. There is as yet no pipeline of planned projects. We have not seen evidence in the dSBP or in the responses to our questions of how National Highways is planning to identify projects and develop a programme for implementation.

Addressing SSSIs can be expected to be complex, and the target National Highways has set itself is high. National Highways has explained to us that improving the condition of watercourses designated as SSSIs will require working with several riparian landowners. National Highways is often only one of the riparian owners, and although it can undertake interventions alongside the stretch it owns, this will not enable the SSSI to achieve favourable status.⁸⁸ Working with multiple stakeholders comes with a risk of delay, as engagement with landowners and other stakeholders is a time intensive process. There is a risk that a substantial share of works will be back-end loaded.

National Highways’ commitments appear to go further than the government’s Environmental Improvement Plan (75% of sites in ‘favourable condition’ by 2042) without justification for this pace or any evidence of achievability.

Are the proposed targets achievable and have the risks been assessed?

Our understanding is that National Highways is not proposing a SSSI related KPI or PI. Its commitment, based on its Environmental Sustainability Strategy, does not appear to be achievable based on the information we have seen, given the limited planning undertaken so far a programme of this complexity.

As noted above there are significant risks related to working with stakeholders, which is expected to be the case for majority of the SSSIs. As illustrated by the case studies in Boxes 1 and 3 (River Culm M5, Saltram case studies), progress on this issue relies on reaching agreement with other interested partners which can take time.

Summary of CEPA’s assessment of the SSSI plan

Issue	Progress	Importance	Rationale
Line of sight	RED	MEDIUM	Addressing SSSIs can be complex, and we have seen no evidence that National Highways has an understanding of the scope of work required. There is no clear link between the scope of the programme, the funding required and how improvements are going to be delivered. We are particularly concerned of the lack of joined-up thinking in the dSBP, given the likely benefits in multiple outcome areas.

⁸⁷ RFI 28 response

⁸⁸ RFI response 139

Issue	Progress	Importance	Rationale
Approach to cost estimation	AMBER	HIGH	Cost estimation approach is based on average costs from RP1. We have no information on whether the type of sites addressed in previous Road Periods reflect the expected complexity of RIS3 schemes, and consequently, how appropriate the cost estimates are. We think there is scope for National Highways to aim to derive cost efficiencies from a more joined-up delivery with other environmental outcomes.
Readiness and deliverability	RED	HIGH	There is no pipeline of projects, and we have seen no evidence of how National Highways is going to develop a programme. We are concerned over readiness to deliver the sizable programme of improvements to 68 sites and maintenance of additional sites. There is a risk that the programme will be significantly back-end loaded.
Achievability of KPIs and risks	AMBER	LOW	This area is not going to have a PI, however, the target does not appear achievable given the limited progress on developing a programme. Working with partners and other stakeholders is expected to be common to deliver the programme, which comes with significant risks.

8. OVERALL CONCLUSIONS AND RECOMMENDATIONS

National Highways is proposing £380m of expenditure on environmental outcomes in RIS3, up from £325m in RIS2 (+17%). Of this, we have reviewed plans for around £300m (~78%), noting that carbon was outside the scope of our review and that the dSBP contained relatively little information on several of the proposed funding lines (e.g. landscape initiatives, climate resilience, circular economy). In turn, these other proposed funding lines do not have a direct link to the Performance Specification.⁸⁹ In addition to the £380m, National Highways is also proposing £165m of soft estate renewals expenditure, which National Highways has suggested will have both a biodiversity and a safety benefit by restoring some of its soft estate back into a maintainable condition.

Several 'cross-cutting' issues emerge from our bottom-up review which might form the focus of ORR's challenge to the environmental aspects of the dSBP.

- First, both the Designated Funds and the National Programmes are loaded toward the back end of the Roads Period, meaning that National Highways will be playing catch-up to generate momentum and meet its performance targets. This is a result of insufficient work to develop a potential pipeline of work to bridge between Road Periods, despite this being the third iteration of the Designated Funds.
- Second, we find no evidence of longer-term thinking beyond the 5-year period covered by RP3. The dSBP does not appear to consider how to embed environmental outcomes into the 'business as usual' actions to manage the SRN (e.g. delivering biodiversity and noise improvements at the same time as resurfacing works). In our view, the dSBP continues to treat environmental actions as an 'add on' which requires separate and additional funding, which reinforces the focus on delivering in 5-year blocks rather than planning for the longer-term.
- Third, the main driver of expenditure – water quality – is not a KPI. The PI metric (km of watercourse improved) is not directly related to the legal duties which National Highways proposes to use the funding to deliver. So ORR will need to monitor both the PI and the volume of outputs delivered (number of high-risk outfalls mitigated). But there are also other areas, like air quality, where ORR will need to consider how to monitor National Highways' efforts to fulfil its legal duties. Its approach may need to be more process-oriented and qualitative in nature (i.e. '*is National Highways doing all that it reasonably can?*').
- Fourth, proposed changes in the biodiversity metric will make National Highways' performance less sensitive to delays and changes in the enhancements portfolio. But by assuming that there is no biodiversity degradation on areas of the soft estate that are kept in 'maintainable' condition, the metric will no longer incentivise maximisation or enhancement of its biodiversity value. This is because maintaining the soft estate requires a balance of safety, biodiversity and other ecological objectives. Whilst we agree that the 1% degradation assumption needed to be addressed in order to keep the target achievable, one might also observe that given the rate of progress towards the RP2 'no net loss' target it helped to motivate management action. Changes in the metric should be informed by its ultimate objective – but there is a risk that it will blunt incentives to manage all road verges and other areas for their wildlife value, whilst further entrenching the approach to biodiversity as an 'add-on' to the RIS rather than business as usual.
- Fifth, we do not find any objective justification for the categorisation of noise, cultural heritage and SSSIs within National Programmes – for which we assume the intention is that the funding is more 'ring-fenced'. Given the absence of a ready pipeline for such schemes, and the overlap between cultural heritage, SSSIs and biodiversity, we suggest that these outcomes could be folded into the Designated Funds such that there becomes a more clearly justified use for the Designated Funds and greater incentive to consider both the opportunities for synergies but also trade-offs to ensure that the Funds deliver improved value for money.

⁸⁹ Some of the landscape funding may be used to support biodiversity and scaling up other nature-based solutions, such as sustainable drainage systems which can improve water quality.

Some of the case studies we have undertaken indicate that a degree of ‘**joined-up**’ thinking happens at project level, e.g. recognising potential synergies between and layering of KPI/PI outcomes. But whilst there is some evidence of good practice, this type of joined up thinking is not communicated in the dSBP and there is no discussion of how the overall Environment Designated Fund and (more importantly) the National Programmes have taken this into account.

- Sixth, National Highways’ approach to cost estimation is principally top-down and based on historic averages (adjusted for inflationary pressures). Based on the case studies we have received, e.g., the River Culm M5 Outfalls, cross-checking the cost estimates against a more bottom-up approach raises some concerns about the sufficiency of this approach – but noting that National Highways has in the past failed to deliver the promised ramp up in activity so deliverability of this larger programme of work is a concern, particularly given the ramping up of expenditure through the National Programmes in Year 3.

Overall, we observe that the funding allocated to the environmental plan is less well evidenced and justified than other aspects of the dSBP we have reviewed. Given the wider pressures on the SoFA, the ORR might consider whether there is scope to require an accelerated planning process or to reduce funding for the environmental plan in order to deliver higher priorities elsewhere.

In that context, our recommendations to ORR are as follows:

- (A) **Clarity of the plan.** ORR should ask National Highways to verify the latest position on the various funding lines, (if necessary) explain how these align with the RIS3 financial model and reconcile this with the funding lines proposed in the original dSBP documents which present an inconsistent set of proposals.
- (B) **Biodiversity.** ORR should (i) clarify with National Highways how much it plans to spend on achieving ‘no net loss’ given the discrepancy between the £40m funding line and the £75-80m that we estimate it might need to deliver 2,500 BUs; and (ii) challenge the justification for the soft estate renewals funding; (iii) consider how it might monitor the delivery of soft estate maintenance activities in RP3; and (iv) engage with both National Highways and DfT to ensure that both the KPI metric and target agreed for RIS3 are consistent with the strengthened biodiversity duty under the Environment Act 2021.
- (C) **Biodiversity and Noise.** ORR should consider whether there is scope to apply a modest efficiency challenge to the cost benchmarks used. On biodiversity, we think that there is scope to cap the unit cost at ~£30k per BU which would still be in the upper half of the range implied by the evidence base. Assuming 2,500 BUs, this would reduce the RIS3 funding requirement from £82.5m to £75m.

On noise, applying a 0.5% p.a. efficiency challenge would reduce the average cost of noise mitigation per household to £7,000 and would increase the target number of households mitigated to 6,430 within the £45m budget.

- (D) **Water Quality.** ORR should use the period before the start of RIS3 to establish a baseline understanding of how National Highways will develop packages of work in future years. This should include monitoring the number of outfalls it can confidently progress to construction in Years 1 and 2; monitoring the number of outfalls which progress to the detailed design stage each year and the average time it takes for schemes to progress from feasibility to delivery. In turn, this will help ORR to challenge the deliverability of the back-end of the programme.
- (E) **Water Quality.** As well as monitoring the number of ‘high risk’ outfalls mitigated (which is not the current water quality PI), ORR should also monitor National Highways’ rate of drainage asset verifications and how many of these are found to be high risk outfalls, as there is a risk that the estimated number of high risk outfalls to be addressed grows if National Highways initial assumptions were wrong.
- (F) **Noise.** ORR should ask National Highways to explain how it will group together individual noise barrier and resurfacing schemes into an annual programme and seek assurances on the development of a programme for Years 1 and 2. It should also ask National Highways to explain how it will phase its approach to the insulation programme and identify a pipeline of households to be mitigated this way each year.
- (G) **Noise, SSSIs and Cultural Heritage.** ORR should challenge why these outcomes are considered ‘National Programmes’ and consider whether they would be better added to the Designated Funds. This would

ensure that the funds overall consider opportunities to find synergies as well as encouraging greater prioritisation which should support improved value for money.

- (H) **Air Quality.** The ORR should consider whether there is evidence it can collect on National Highways' contribution to air quality improvements compared to progress achieved by other local authorities, and consider whether it might use this evidence to encourage a wider discussion with DfT about the purpose of air quality funding within the SoFA and whether National Highways is exploring all reasonable options to deliver meaningful air quality improvements.
- (I) **Longer-term planning and embedding within business as usual.** The ORR should think about how it might encourage National Highways to plan for the longer-term across all the environmental outcomes, so that there is a more stable approach across RIS periods and that future SBPs might identify more opportunities to join-up environmental improvements with other business as usual activities (particularly with maintenance and renewals).



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