



**HIGHWAYS ENGLAND'S APPROACH TO DELIVERING SCHEMES THROUGH
ITS RING-FENCED FUNDS
OFFICE OF RAIL AND ROAD (ORR)**

02 FEBRUARY 2018

FINAL REPORT

Submitted by:

Cambridge Economic Policy Associates Ltd

CONTENTS

Executive Summary	3
1. Introduction.....	16
1.1. Background	16
1.2. Project Approach	17
1.3. Structure of the remainder of the report	18
2. PART 1: Background to the Ring-Fenced Funds	19
2.1. Air Quality Fund	19
2.2. Cycling, Safety and Integration Fund	20
2.3. Environment Fund	22
2.4. Growth and Housing Fund	23
2.5. Innovation Fund	25
2.6. Key findings at fund level.....	27
3. Case Studies.....	29
3.1. Case study summaries	29
3.2. Summary of issues emerging from case studies.....	42
4. Stakeholder engagement	43
4.1. Overview	43
4.2. Summary of key messages.....	43
4.3. Submission guidance	44
4.4. Transparency.....	45
4.5. Supply chain and central co-ordination	46
4.6. Fund allocations and RIS2	47
5. PART 2: Cross-cutting analysis of the ring-fenced funds programme	48
5.1. Fund management.....	48
5.2. Developing the pipeline	51
5.3. Project Identification	52
5.4. Project Appraisal.....	56
5.5. Project prioritisation	60
6. Programme governance, investment controls and risk.....	61
6.1. Project registers	61
6.2. Routine performance monitoring.....	63
6.3. The performance cell for October 2017	64

6.4.	The quality of performance reporting	65
6.5.	Risk management.....	67
6.6.	The role of the Investment Decision Committee	69
6.7.	Investment control.....	70
6.8.	Governance	71
7.	Delivery and realisation of benefits	73
7.1.	Outputs	73
7.2.	Evaluation and realisation of benefits	74
8.	Conclusions and recommendations	76
8.1.	Conclusions	76

Disclaimer: This report represents CEPA’s advice to the ORR in relation to Highways England’s management of the ring-fenced funds. Whilst this report has been requested by ORR, the views expressed are those of CEPA alone. CEPA accepts no liability for use of this note or any information contained therein by ORR or any other third party. The findings enclosed in this presentation rely on information provided to us by Highways England. This information, upon which all or portions of this report are based, in particular the case studies, is believed to be reliable but has not been independently verified unless expressly indicated. In some cases the information was provided to us by Highways England in documents marked draft. We have assumed that the final documents are substantially the same as the drafts unless Highways England told us otherwise. These findings within may contain predictions based on current and historical trends, and any such predictions are subject to inherent risks and uncertainties. Public information and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information, unless expressly indicated.

© All rights reserved by Cambridge Economic Policy Associates Ltd.

EXECUTIVE SUMMARY

Introduction

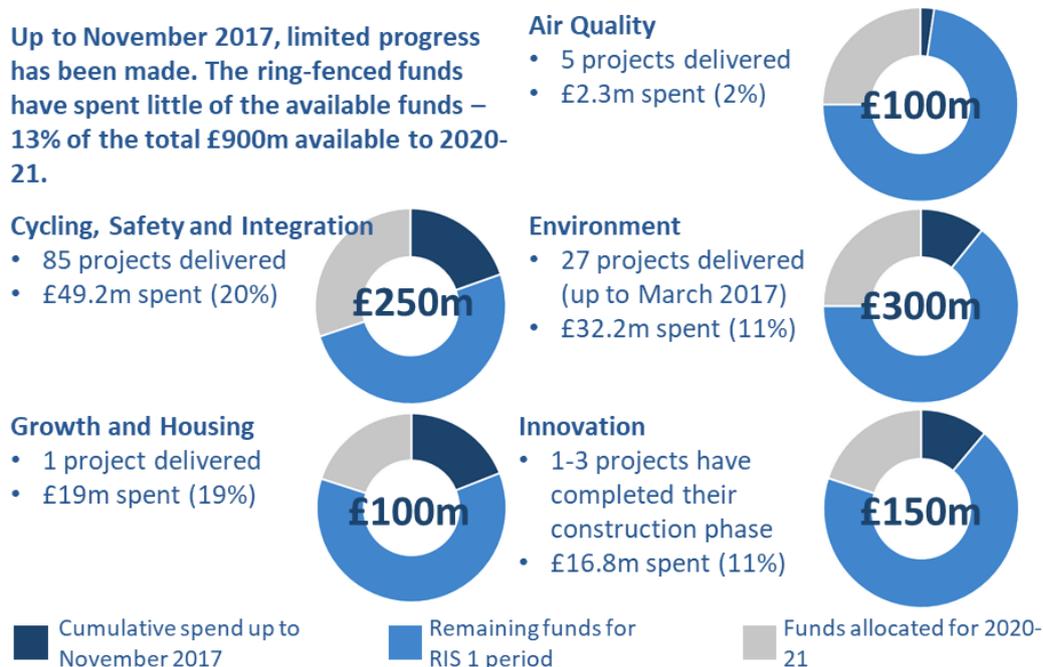
As part of the first Road Investment Strategy (RIS1) the government outlined a multi-year investment plan for Highways England for the five year period 2015/16 to 2019/20. This included funding to address a range of issues beyond the traditional focus of roads investment. This funding was allocated to deliver objectives in a number of important areas, each of which has a ring-fenced funding allowance.

Highways England is now in the third year of the five-year period. However, in its annual assessment of Highways England's performance in 2016/17 (the second year of RIS1), ORR found that to date, "progress in delivering projects through ring-fenced funds has been slow, with a small proportion of the available funding being spent".¹ This was partly attributed to the need to develop plans for each fund before Highways England could deliver outputs.

ORR also observed that, whilst Highways England has been engaging well with stakeholders, there is still a lack of robust plans in some areas, particularly air quality and innovation, and this represents a risk to these funds in successfully meeting their objectives.

Figure 1 provides a brief overview of the progress of the five ring-fenced funds (also known as designated funds):

Figure 1: Overview of the five ring-fenced funds



Source: CEPA analysis of updates provided to the Designated Funds Stakeholder Advisory Group (December 2017), Highways England's Designated Funds Finance Report (November 2017) and ORR's Annual Assessment of Highways England's performance (March 2017)

¹ ORR (2017) Annual Assessment of Highways England's Performance 2016-17

Approach to the project

CEPA's review has sought to assess how Highways England manages the ring-fenced funds, and ensures that individual schemes represent value for money and contribute towards Highways England's wider RIS outcomes and strategic objectives. The key issues that we consider are:

- the governance structure and processes in place;
- how schemes are identified, selected, developed and delivered;
- what costs, outcomes and benefits have been delivered by ring-fenced funds, and what is expected to be delivered in the future;
- the robustness of programme management and investment controls in place, including processes for risk identification and mitigation;
- how well the programme for ring-fenced funds is aligned with the fund objectives and Highways England's other programmes on the strategic road network; and
- how the company has engaged with stakeholders, and how input from these groups has fed into the development of projects.

We have undertaken a top-down review of the governance of the ring-fenced funds building on work already undertaken by Highways England as well as a bottom-up review of individual project case studies. In building the evidence base for this review we supplemented desk-based reviews of information provided by Highways England with further data gathering. This has included:

- reviewing progress on internal governance and controls following recent internal audits;
- interviewing the key Highways England internal stakeholders;
- interviewing the key external stakeholders associated with the ring-fenced funds; and
- surveying a wider group of external stakeholders through interviews and an online survey.

Key findings at fund level

We undertook high-level discussions with internal stakeholders in the programme management team and examined individual project case studies in each of the funds. Our key findings are summarised in Table 1 below:

Table 1: Key findings at fund level

	Pipeline development	Scheme selection & development	Governance	Delivery	Overall performance
Air Quality	RED <ul style="list-style-type: none"> Highways England (HE) has so far been unable to develop a pipeline – innovative schemes have identified few benefits. 	RED <ul style="list-style-type: none"> Issues over resource v capex funding. HE cannot apply capex fund to research based projects. Selection criteria limit number of eligible schemes and may need to be relaxed 	RED <ul style="list-style-type: none"> Currently no credible plan to overcome issues identified Case study work suggests some loss of focus on key projects (e.g. NAQMN) 	RED <ul style="list-style-type: none"> Very behind on planned expenditure. Has not met target in any year as yet. Current forecast ramp up of expenditure is un deliverable without credible plan 	
Cycling, Safety & Integration	AMBER <ul style="list-style-type: none"> Cycling and safety components of the fund now over programmed Has taken longer to develop a pipeline of integration schemes HE acknowledges that it should improve engagement of bus and coach stakeholders 	AMBER / GREEN <ul style="list-style-type: none"> Standard Scheme Appraisal Report (SAR) template for scheme selection But not always possible to determine VFM of individual interventions 	AMBER <ul style="list-style-type: none"> Fund comprised of small projects – HE should consider bundling these Quality of reporting impacted by large number of schemes. Considering third party delivery e.g. via Sustrans 	GREEN <ul style="list-style-type: none"> Most progress to date on expenditure & delivery However remains behind on programme in year partly due to issues with the supply chain Leading on development of evaluation approach for ring-fenced funds generally 	
Environment	AMBER / GREEN <ul style="list-style-type: none"> Has developed a strong but back-end loaded pipeline Noise is likely to be oversubscribed and is applying a degree of prioritisation to schemes seeking funding 	AMBER <ul style="list-style-type: none"> Uses alternative to standard SAR appraisal as projects routinely deliver non-monetised benefits. Technical leads provide oversight to ensure delivery of suitable benefits 	AMBER <ul style="list-style-type: none"> Fund comprised of small projects – HE should consider bundling these Quality of reporting adversely impacted by large number of schemes 	AMBER <ul style="list-style-type: none"> Currently behind on planned spending but expecting to catch up over time, though programme will be back end loaded and Would like greater flexibility to transfer funds between ring-fenced allocations 	
Innovation	AMBER <ul style="list-style-type: none"> Slow start to project development but improving – a large number of new projects have been added recently Care to be taken about overlap with other funds, particularly air quality 	RED <ul style="list-style-type: none"> No prioritisation of projects. This may become more important as the fund moves towards being fully subscribed. 	AMBER <ul style="list-style-type: none"> Care should be taken to ensure that rapid pipeline development does not compromise project quality. 	RED / AMBER <ul style="list-style-type: none"> Back-end loaded programme not yet supported by a fully robust plan Few outputs delivered so far and in-year expenditure forecast will not be met again this year. 	

	Pipeline development	Scheme selection & development	Governance	Delivery	Overall performance
Growth & Housing	<p>GREEN</p> <ul style="list-style-type: none"> • Overall approach differs from other funds – underpinned by competitive bidding process for grants • Expects to be oversubscribed • A pilot plus two external rounds have been completed - close liaison with Local Enterprise Partnerships (LEPs) who facilitate bidding waves 	<p>AMBER</p> <ul style="list-style-type: none"> • Uses alternative to standard SAR appraisal. Built on established industry/European Regional Development Fund (ERDF) precedents • Generally “very good” value for money but some schemes only just over the “good” VFM threshold 	<p>GREEN</p> <ul style="list-style-type: none"> • Sits outside of general ring-fenced fund investment governance under the oversight of the Strategy & Planning Directorate IDC 	<p>AMBER</p> <ul style="list-style-type: none"> • Early schemes are starting to reach completion now but progress is not as rapid as budget forecasts and the programme will be back end loaded • HE delivery focused on early projects – will mainly deliver through local authorities and third parties 	

Source: CEPA analysis

Across the portfolio a common theme emerges; the funds remain substantially underspent against original plans and for the third year in a row they will fail to meet internal forecasts for the current financial year. That noted, it is the case that most funds now have a more substantial programme of projects planned for the second half of the period which indicates that the dedicated resources that Highways England has brought to the programme are having a positive effect. But this raises a further issue that the programme will now be more back end loaded than originally anticipated and therefore increasingly challenging to deliver. A number of the funds are already raising issues around delivery capacity for which there will need to be a substantial ramp up of resource.

Stakeholder engagement

In addition to discussions with Highways England and case study development, in the preparation of our report we collected views on Highways England's management of the ring-fenced funds and its stakeholder engagement from a group of external stakeholders with an interest in the ring-fenced funds. We conducted interviews with a select group of key stakeholders and attended the Designated Funds Stakeholder Advisory Group – the main forum which Highways England uses to seek the advice of interested stakeholders. We also carried out an online stakeholder survey, the responses to which are also captured in this report.

We found that stakeholders are very positive about the existence of the ring-fenced funds and regard them as a real opportunity to realise important social, economic and environmental outcomes that have not been the focus of Highways England main funding. In particular, key stakeholders emphasised how the funds were set up to go “above and beyond” Highways England's core business, and the role they can play in mitigating the impact of the Strategic Road Network (SRN) on local communities and the wider environment.

But we were told that the experience of engaging with Highways England was variable and sometimes difficult. Even members of the Stakeholder Advisory Group described early engagement as challenging, although most considered that it had improved over time as all parties have learnt from the experience. These stakeholders noted that the experience remains mixed even now. They recognise that they have a privileged position as members of the group pointing out that others which are not members were likely to be less positive about engagement. Some pointed to excellent large scale set piece engagement which they felt has gone well but most said that engagement at local level is often poor and inconsistent. Stakeholders outside of the Group were indeed less positive about their engagement with Highways England, and told us that they believed Highways England had only belatedly realised the amount of effort and resource required to engage stakeholders effectively.

Other consistent themes include:

- a lack of transparency with opaque processes in terms of priorities and delivery;
- processes being bureaucratic; stakeholders lack clarity on the process for obtaining funds and getting applications ‘right’; and
- they suggested a need for improved two way communication.

Cross-cutting analysis: Fund management and project selection

We developed 12 project case studies and have documented and analysed the themes and issues which emerge from them as well as the wider evidence base collected through our review of the ring-fenced funds. Findings are summarised below:

Fund management

The ring-fenced funds were introduced at the start of the RIS1 period and cover a number of new activities for Highways England. Because of this, the company was relatively unprepared to manage the programme at the start of the RIS.

The Programme Management Office (PMO) – a dedicated team now in place to manage and oversee the funds, and report progress at both fund and programme level - is staffed by a team of Programme Managers who each take responsibility for a fund and are supported by a Technical Specialist. The PMO is headed by a Senior Programme Manager, and leadership of the team has been strengthened by the recent appointment of a new divisional director (on a one year secondment).

The PMO has provided momentum this year but progress to date suggests that this group requires greater power and/or support from senior leadership to enforce control over the delivery parts of the business and to develop effective governance practices.

Developing the pipeline

The company's performance to date also shows the funds have had varying degrees of success in establishing a pipeline of potential schemes. Early signs suggest that the Growth and Housing fund has had some success with grant-style provision and use of stakeholder supply chains for delivery. The competitive bidding used to identify schemes is a familiar feature of similar funds run by other public-sector organisations and as of December 2017, the fund is as much as 38% oversubscribed.

Conversely, Highways England has so far been unable to identify a pipeline of schemes to fund through the air quality fund beyond initial pilot studies and the air quality monitoring network. In part there is a technical issue that the fund requires capital schemes but research projects do not deliver an asset in accounting terms so they are ineligible. However the more substantive issue is that the interventions are required to have an appreciable impact on air quality and experience to date indicates that this will be difficult to deliver unless project selection criteria are relaxed.

Project appraisal and prioritisation

Once a project has been proposed to Highways England, it is sifted against initial criteria to decide whether it is worth dedicating company resource to a detailed assessment of cost, deliverability and value for money. If a proposed scheme passes the initial sifting exercise, it enters a pipeline of potential future schemes. At this stage Highways England undertakes an appraisal. In part because of the large number of schemes in the ring-fenced funds, Highways England attempts to quantify the costs and benefits but sometimes has to rely on a qualitative assessment. In the case studies we see different benefits being assessed at an early stage than in the final Scheme Appraisal Report (SAR) which may not be an issue, but in the documentation that we have seen the rationale for this is not always clear. What is

clear however is that Highways England does not have an overall and consistent view across the portfolio of the benefits that funding provides.

As Highways England started RIS1 without a portfolio of projects for the ring-fenced funds and have had difficulty developing the pipeline over the past three years, they have not had to prioritise projects on value for money grounds. Instead, projects which meet the necessary criteria and pass the appraisal process are approved as they come forward. But as the funds have become more embedded in the business, demand has started to grow. Our review found in funds such as Growth and Housing and the noise sub-area of Environment, the PMO has identified that they are likely to spend their full allocation during RIS1. We are concerned that slow progress in the early years of RIS1 has created a pressure to deliver outputs as quickly as possible, and that Highways England may not be considering potential schemes in the round and prioritising those which offer best value for money. There is a risk that some schemes have been approved that would not otherwise have been funded. Highways England acknowledges it needs to think about prioritisation of projects for RIS2 but we consider that there may be scope to do so sooner.

Cross-cutting analysis: Programme governance, investment control and risk

Once the project is in progress, it is usually assigned to a project manager to see it through to delivery and evaluation. The project manager should submit regular updates on progress to the PMO and manage the relationship with any interested stakeholders.

The quality of reporting

Once in the pipeline, a proposed scheme enters the project register for the relevant fund. This provides a snapshot overview of Highways England's progress in delivery at a macro level and some detail on the status and the expenditure of schemes. However, despite being key control documents, the quality of the data and accuracy of reporting is varied. The robustness of the registers is causing an ongoing risk of delivery falling below baseline.

We note Highways England's main tool for monitoring cost performance – the 'Performance Cell' – also has low data quality. For example, there are large discrepancies between the money allocated to this year's programme and the budgets entered on Highways England's finance management system. This is not the fault of the PMO as it seems the current reporting system makes management of the funds an onerous, labour intensive process. However, it does make accurate cost reporting difficult and at this stage in the RIS period Highways England does not have reliable data with which to monitor and control the portfolio of ring fenced fund projects.

Risk management

While it is clear that project managers and the PMO understand at least some of the risks associated with the projects and/or programmes of projects that they are managing, reporting of risk appears to us to be weak. Risk registers are in place for some projects but there is no overarching view of project risk at the programme (fund) or portfolio (across the

funds) level. We consider that adequate control of the portfolio of ring fenced fund projects cannot be delivered without a better understanding of risk. It should therefore be a priority to ensure that a system of risk management is put in place across all projects.

The Investment Decision Committee

HE seeks financial approval for ring-fenced schemes (except for Growth and Housing) through the Designated Funds Investment Decision Committee (DF IDC). The DF IDC has delegated decision-making authority from Highways England's Executive Committee and reports back to the Executive with recommendations on any area where action is necessary to ensure effective decision-making.

Based on the evidence shared with us, the IDC seeks to ensure that projects adhere to basic processes (e.g. submission of relevant assessment forms and business cases) and does not approve projects where these are lacking.

Governance

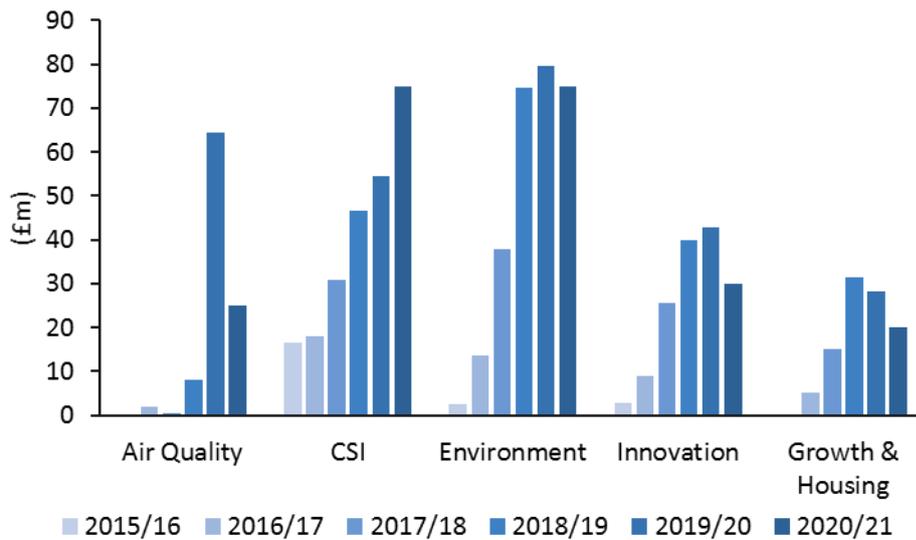
Our report highlights a number of significant issues that we consider Highways England should address; many of them are consistent with its own internal audit findings. We would expect a senior level body, most likely the IDC given its remit or perhaps the Designated Funds Steering Group, to maintain an oversight of the funds and overall accountability for delivery of their objectives in addition to approving (or not) expenditure.

Some funds perform better than others in relation to aspects of good governance but overall our conclusion is that Highways England's management of the ring-fenced funds does not yet meet good practice in any of the areas identified in Highways England's range of published guidance documents.

Delivery and realisation of benefits

Highways England's Forward Plan indicates that expenditure is forecast to step up significantly in 2018/19 (total £200.7m) and that the programme is heavily back-ended in the final two years of RIS1. Despite Highways England's expectation that the Growth and Housing, Environment and CSI funds will be over-programmed, it is not clear whether this level of expenditure is achievable.

Fig 4: Actual and forecast annual expenditure by fund, 2015/16 to 2020/21



Source: Highways England's Forward Plan

Overall our view is that Highways England's forward financial plan is not yet supported in all areas by a robust delivery plan. In some funds – Air quality and perhaps Integration (within CSI) contingency planning for underspending in RIS1 should perhaps already be underway.

The funds represent a significant opportunity to mitigate the detrimental impacts of the strategic roads network on its surroundings and its neighbours and at this point there is a significant risk that the potential this offers will not be fully realised.

Conclusions and recommendations

Highways England has recognised that progress and delivery of the ring-fenced funds provided as part of the RIS settlement with DfT is insufficient. Its own internal audit raised a large number of issues regarding management and governance of the funds. Highways England has been responding to these and has made progress by establishing a central PMO as a focus for management of the funds.

The programme has gained some momentum over the course of the last year as a result of the application of dedicated resources. A number of the original audit recommendations are considered addressed and closed. It is also the case that there now exists a more substantial pipeline of projects for all funds except air quality.

Notwithstanding this progress, our review demonstrates that a number of significant challenges remain:

- It is not clear that Highways England has sufficient clarity on its requirements for project funding that it can explain these to external stakeholders consistently at central and regional levels;

- The PMO does not have the oversight of projects that is required to control the funds effectively. Data from its internal systems is inconsistent and performance management information and risk data is poor.
- This is compounded in those funds that have a large of number of projects and where the consequent data requirement is extensive.
- The PMO is reliant on the regions for data and it is not clear whether the regions are insufficiently focussed on the funds or under resourced to provide that data.
- Project delivery has yet to ramp up. Expenditure forecasts for each of the last two years have not been achieved and it seems highly unlikely that they will be this year.
- Delivery is increasingly back end loaded and it is not clear that Highways England has the capacity to deliver the programme.
- It is not clear that the programme currently has sufficient executive level input/support to rectify the issues identified.

The table below sets out the recommendations that we have made throughout the report. We note that the PMO is aware of many of the issues identified in this report and is already considering how they might be resolved:

Table 2: Recommendations

Number / Heading	Recommendations
Recommendation 1: Stakeholder engagement and transparency	<ul style="list-style-type: none"> a. Stakeholders need greater and more effective methods of involvement than are available at present b. Highways England should make it an immediate priority to have clear guidance on project requirements and make sure this is widely available with appropriate application forms easy to access c. HE should make it an immediate priority to routinely feedback on projects. As suggested elsewhere in the report calling for potential projects in managed waves (with clear outcomes from each wave) could be a way forward d. Highways England should provide stakeholders with more transparent information on which projects have been funded and provide updates on their progress. Highways England should also produce an annual public facing report on its progress against ring-fenced fund commitments e. Highways England should consider further opportunities to rely on grant style provision in some funds and use of stakeholder supply chain for delivery to limit its own work load given issues of momentum, delay and the back end loading of the programme.
Recommendation 2: Programme leadership	Highways England should consider whether it needs to make a permanent appointment to the director role to lead the PMO. Given the planned ramp up of expenditure and delivery in 2018/19, 2019/20 and 2020/21, the programme may become more difficult to manage and the team would benefit from senior level representation to help drive delivery across all areas of the business.
Recommendation 3: Fund Plans	Updating the Fund Plans to reflect the evolving delivery programme is likely to be a time intensive exercise. We recommend that the plans become guidance documents which describe governance and process and which do not need to be updated on a regular basis, except to incorporate lessons from delivery,

Number / Heading	Recommendations
	stakeholder feedback and evaluation.
Recommendation 4: Delivery through stakeholders	Early signs suggest that the growth and housing fund has had some success with grant-style provision and use of stakeholders' supply chains for delivery. Stakeholders report that they are more familiar with grant led processes and many use their own supply chains for delivery. Highways England should explore the possibility applying similar approaches in other funds, such as cycling and integration (which is already seeking to use the Sustrans supply chain), environment and air quality.
Recommendation 5: Capital / resource flexibility	Certain ring-fenced funds need a mix of capital and resource funding, notably the innovation and air quality funds which are undertaking both a number of research based pilot studies and are introducing new assets which have ongoing maintenance requirements (e.g. air quality monitoring stations). Highways England should explore with DfT and HMT whether some additional flexibility between capital and resource is possible going forward.
Recommendation 6: Air quality	Highways England should reconsider its current interpretation of the air quality fund criteria as we consider they will only facilitate strong pipeline development if interpreted in their broadest sense. Box 2 provides a case study on TfL's approach to developing air quality led schemes.
Recommendation 7: Performance indicators	Highways England has perhaps found it more straightforward to identify projects and delivery has more momentum where it is linked to a KPI in the performance specification (for example, Noise Important Areas and KSI casualties). We consider that there may be value in aligning any ring-fenced funds in RIS2 to specific performance targets. Highways England should consider this with DfT.
Recommendation 8: Resources	Additional management resources have been provided centrally and are delivering improvements but the central PMO team is dependent upon the regions for pipeline development, project management and delivery. We note a number of issues in the review e.g. inconsistent stakeholder engagement and poor performance data quality (see sections 4 and 6.4), that imply that the lack of focus on ring fenced funds identified in Highways England's own audit may still exist in the regions (though we have not discussed this with them). Highways England should reflect upon the adequacy of regional resources and the clarity of leadership and communication from the centre.
Recommendation 9: Major Projects	Latterly, Highways England has made progress with the Major Projects directorate and has secured its engagement in the Designated Funds IDC and the Steering Group. However, as the division responsible for the delivery of major capital schemes, it is important that going forward Major Projects is fully engaged in the process of identifying potential schemes and give appropriate priority to the delivery ring-fenced funds projects.
Recommendation 10: Financial flexibility	In addition to the flexibility between capital and resource (recommendation 5), Highways England needs to introduce the flexibility to deliver schemes using contributions from multiple funds. This means that Highways England may require some ability to move the allocation of funds around (i.e. an increase in one fund would be offset by a decrease in another), but it also needs to establish adequate controls to ensure this flexibility is used appropriately.
Recommendation 11: Business case methodology	Highways England should ensure that its business cases are consistent across schemes and, wherever possible, funds. In some of the early projects we observed differences in the business cases of smaller schemes (particularly in innovation and air quality).
Recommendation 12: Wider benefits	Highways England should pay special attention to cases that rest on wider or difficult to quantify benefits, but should not shy away from them. There is wider

Number / Heading	Recommendations
	support for these types of projects amongst stakeholders. These projects require careful monitoring to ensure that VFM is maintained – slippage and cost increases should be carefully monitored.
Recommendation 13: Initial sift criteria	Some of the projects funded via the Growth and Housing Fund only just demonstrate good value for money. These projects are likely to require additional oversight to provide assurance that they meet the scheme criteria. To address this, we would recommend that potential Growth and Housing projects should have to demonstrate “very good” value for money at the initial sift stage, even if this would lead to another call for projects.
Recommendation 14: Prioritisation	Not all the funds are currently prioritising which projects should proceed within finite budget allocations. As funds availability diminishes, fund managers need prioritisation tools. Mandating the production of business cases is a good starting point, but in some of the other funds Highways England may want to consider calls for proposals in waves. This could help to replicate the interest among external stakeholders in the growth and housing fund, and allow Highways England to consider in the round which schemes it should prioritise for funding.
Recommendation 15: Project reporting	Greater attention should be paid to maintaining up to date and accurate information on project progress. In addition to the information currently collected, the PMO should capture information on the BCR of projects and highlight those which require careful monitoring for VFM or other reasons.
Recommendation 16: Scheme grouping	In order to better manage the reporting requirements of those funds with a proliferation of small schemes, we suggest that Highways England bundles these into related groups; this is something that the PMO is considering. Projects could be grouped nationally or by region depending on the projects themselves. A single project manager should then be assigned responsibility for reporting and delivery of each bundle.
Recommendation 17: Deliver consistent data reporting	Consistent and accurate project reporting should be a priority for the PMO. Systems and processes that provide accurate, consistent and current information need to be developed and embedded across the business. Achieving this will likely require senior management support i.e. to mandate consistent and timely reporting through all relevant systems by project managers and to ensure that systems have like data/timing requirements to limit the scope for inconsistency. NOTE: The recommendation should be read alongside recommendation 8 which suggests that additional resources may be required.
Recommendation 18: Risk and optimism bias.	Highways England needs to actively consider risk and all project cost assessments should include an appropriate allowance for risk and optimism bias. Highways England’s approach should be compliant with HM Treasury’s Green Book and DFT’s webTAG guidance, but they should also draw upon their own evidence base where appropriate.
Recommendation 19: Risk management	Appropriate risk management needs to be put in place at the level of each individual fund and the overall portfolio, starting with regularly updated risk registers. This will help the PMO and the funds’ executive oversight to take proactive action to reduce the likelihood of programme delays and over/underspends.
Recommendation 20: Role of the Executive	Success of the ring-fenced funds programme depends on all areas of the business. In our view there should be a business-wide committee with executive level leadership and a remit to consider the issues that have been identified in this review which are impeding progress of the funds. This committee should be accountable for the resolution of those issues via recourse to the executive team where appropriate.

Number / Heading	Recommendations
Recommendation 21: Close out	Where not yet in place Highways England should develop close out procedures that provide insight into the project and update the BCR based on outturn costs.

1. INTRODUCTION

1.1. Background

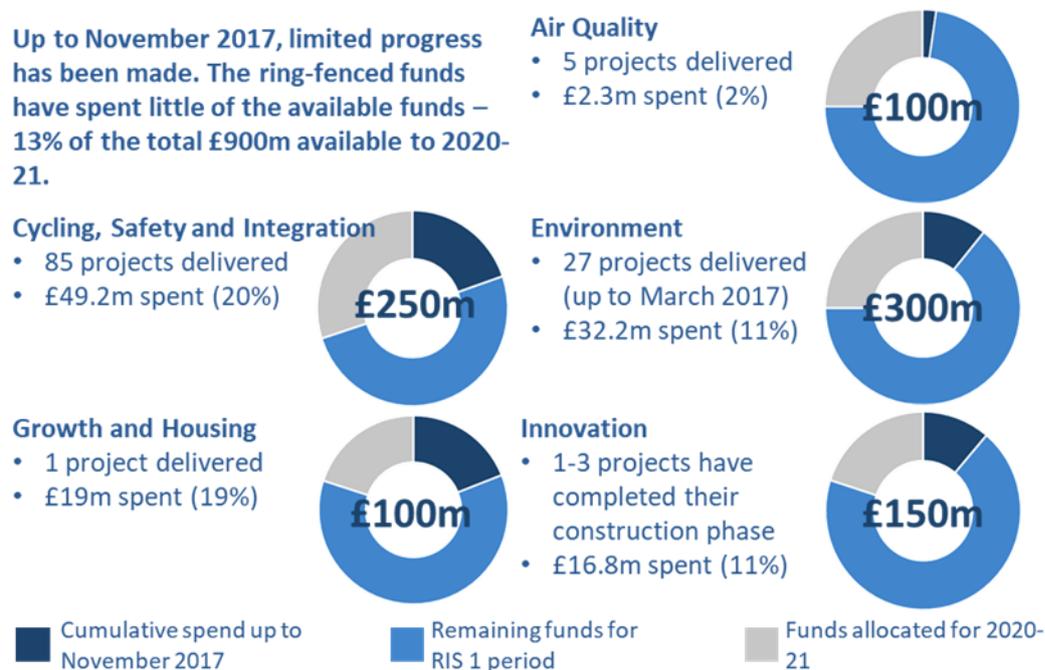
As part of the first Road Investment Strategy (RIS1) the government outlined a multi-year investment plan for Highways England for the five year period 2015/16 to 2019/20. This included funding to address a range of issues beyond the traditional focus of roads investment. This funding was allocated to deliver objectives in a number of important areas, each of which has a ring-fenced funding allowance.

Highways England is now in the third year of the five-year period. However, in its annual assessment of Highways England’s performance in 2016/17 (the second year of RIS1), ORR found that to date, “*progress in delivering projects through ring-fenced funds has been slow, with a small proportion of the available funding being spent*”.² This was partly attributed to the need to develop plans for each fund before Highways England could deliver outputs.

ORR also observed that, whilst Highways England has been engaging well with stakeholders, there is still a lack of robust plans in some areas, particularly air quality and innovation, and this represents a risk to these funds in successfully meeting their objectives.

Figure 1.1 provides a brief overview of the five ring-fenced funds (also known as designated funds):

Figure 1.1: Overview of the five ring-fenced funds



Source: CEPA analysis of updates provided to the Designated Funds Stakeholder Advisory Group (December 2017), Highways England’s Designated Funds Finance Report (November 2017) and ORR’s Annual Assessment of Highways England’s performance (March 2017)

² ORR (2017) Annual Assessment of Highways England's Performance 2016-17

The ORR committed to undertake an in-depth review of Highways England's management of the ring-fenced funds during 2017-18, and to report its findings. This review will contribute to that process, forming an input to ORR's broader assessment of Highways England's management of the strategic road network.

The sub-sections which follow provide a high level summary of the objectives of each fund and its progress to date.

1.2. Project Approach

CEPA's review has sought to assess how Highways England manages the ring-fenced funds, and ensures that individual schemes represent value for money and contribute towards Highways England's wider RIS1 outcomes and strategic objectives. Our review does not extend to Highways England's approach to the second roads period (RIS2) but we have made recommendations that potentially impact that period and which we consider Highways England can put to practical use as it moves forward with its ring-fenced funds in RIS1.

The key issues that we consider are:

- the governance structure and processes in place;
- how schemes are identified, selected, developed and delivered;
- what costs, outcomes and benefits have been delivered by ring-fenced funds, and what is expected to be delivered in the future;
- the robustness of programme management and investment controls in place, including processes for risk identification and mitigation;
- how well the programme for ring-fenced funds is aligned with the fund objectives and Highways England's other programmes on the strategic road network; and
- how the company has engaged with stakeholders, and how input from these groups has fed into the development of projects.

We have undertaken a top-down review of the governance of the ring-fenced funds building on work already undertaken by Highways England as well as a bottom-up review of individual project case studies. In building the evidence base for this review we supplemented desk-based reviews of information provided by Highways England with further data gathering. This has included:

- reviewing progress on internal governance and controls following recent internal audits;
- interviewing the key Highways England internal stakeholders;
- interviewing the key external stakeholders associated with the ring-fenced funds; and

- surveying a wider group of external stakeholders through interviews and an online survey.

1.3. Structure of the remainder of the report

The remainder of the report is structured as follows:

Part 1: Background and evidence gathering

- Section 2 introduces the ring-fenced funds. It provides some background and context describing, for example, what the ring-fenced funds are and why the funding was provided.
- Section 3 summarises each of the individual case studies which we undertook to supplement and support the material we obtained from high level discussions with Highways England and its stakeholders.
- Section 4 summaries the views on Highways England’s management of the ring-fenced funds and its stakeholder engagement from a group of external stakeholders with an interest in the ring-fenced funds.

Part 2: Analysis

- Section 5 describes Highways England’s approach to managing the ring-fenced funds, and to identifying and developing potential schemes in the pipeline.
- Section 6 examines the programme governance of the ring-fenced funds. This covers programme management, investment controls and risk, and also the alignment of the ring-fenced funds with Highways England’s objectives and wider work.
- Section 7 focuses on Highways England’s performance on the delivery of schemes during RIS1 to date. This covers scheme outputs, cost performance and the realisation of benefits.
- Section 8 draws together the main themes identified in the report and presents the recommendation that are included in the preceding chapters.
- Annex A contains 12 in-depth case studies of schemes which have been (or will be) delivered through the ring-fenced funds in RIS1.
- Confidential Annex B provides, for ORR’s use only, the raw feedback from stakeholders on their engagement with the funds.

2. PART 1: BACKGROUND TO THE RING-FENCED FUNDS

HE's ring-fenced funds are worth a combined total of £900m over a six year period covering 2015 to 2021. Of this, £675m was earmarked for the first roads investment period – RIS1 – which covers the first five year period up to 2019/20. The remaining £225m is allocated for the first year of RIS2.

The funds were established to allow Highways England to undertake actions beyond the business as usual, to make improvements in network performance and to ensure that such improvements are delivered in a sustainable fashion. This includes, for example, reducing the impact of the Strategic Road Network (SRN) on local communities and the environment, and doing more for those who live and work near the network, by:

- helping Highways England to invest in retrofitting measures to improve the existing road network, and
- maximising opportunities to deliver additional improvements as part of new road schemes.

As the purpose of the ring-fenced funds is to address issues beyond the scope of traditional road investment, many of the activities funded may be novel to Highways England.

In the sub-sections which follow we discuss the objectives and current status of each fund.

2.1. Air Quality Fund

Air pollution, particularly caused by nitrogen oxides (NO_x), is a health risk and high on the political agenda given that many locations in the UK fail to meet established limits on pollution levels set by the EU. Highways England sees nitrogen dioxide (NO₂) levels as a significant risk to the RIS1 delivery plan, if NO₂ levels increase as a result of its projects then they need to be addressed. Highways England is able to use the £100m air quality fund to better understand the challenges it faces and to develop ways to mitigate NO₂ on or near the SRN and to ensure that Highways England is able to deliver future enhancement schemes without breaching pollution limits.

However, to date, the air quality fund has underspent by more than any of the other funds because Highways England has not been able to identify and develop a deliverable programme of interventions. At the end of November 2017, it had spent a cumulative 3% of the funding available during RIS1 and fully delivered 5 schemes out of 10 pilot studies aimed at identifying appropriate new and innovative solutions to improve air quality on the SRN. Highways England acknowledges that none of these pilots have identified effective solutions and, as we discuss later in this report, there is no substantive plan to disburse the air quality fund effectively in the final years of RIS1. Currently just over half of the 60 planned air quality monitoring stations are operational.

There are technical issues to overcome that the fund requires capital schemes but research projects do not deliver an asset in accounting terms so they are ineligible and there are

concerns about grant funding and state aid risk. However the more substantive issue is that the interventions are required by Highways England to have an appreciable impact on air quality, and those that do are often unacceptable politically (e.g. road charging) or expensive to implement (scrappage schemes).

Elsewhere, organisations such as TFL or the Clean Air Zone (CAZ) cities³ are dealing with similar issues. TFL particularly has had to consider interventions justified on wider grounds than just air quality improvement and has also overcome concerns around state aid. We discuss TFL's approach in Section 5, Box 2 below. We wonder whether more pragmatic selection criteria are required in order to justify interventions which encourage take up of electric vehicles, such as scaling up the electric van scheme that Highways England is piloting, and to provide additional support through extending the provision of charging infrastructure which deals with a fundamental constraint on use of electric vehicles – their range.

We also note that some of the issues being raised as barriers to progress for the air quality fund have been addressed in other Highways England ring-fenced funds e.g. Growth and Housing provides grant funding, so there may be good practice internally that can be applied here. Highways England should also note that the Office for Low Emission Vehicles (OLEV), is making grant payments towards electric vehicles and is part of the Department for Transport so likely subject to the same Government accounting rules as Highways England.

2.2. Cycling, Safety and Integration Fund

The £250m cycling, safety and integration (CSI) fund is managed as three separate but related sub-funds with the following objectives:

- **Cycling.** Improving cycling facilities on or near the SRN with the aim of reducing the impact of the SRN as a barrier to cycling. As part of the Performance Specification for RIS1, Highways England must deliver a target of at least 150 cycling facilities and crossing points on or around the SRN by the end of RIS1, and no fewer than 200 by 2021. In the first two years of RIS1, Highways England reported that it had delivered 57 schemes.
- **Safety.** Helping Highways England to invest in the network to prevent incidents from occurring and to reduce the severity of those which do occur, primarily by carrying out minor safety improvement schemes. As part of the Performance Specification for RIS1, Highways England must deliver a 40% reduction in the number of killed or seriously injured casualties by 2020.

³ Birmingham, Derby, Leeds, Nottingham and Southampton

- **Integration.** Promoting greater transport choice across modes and to address barriers that prevent the safe movement of vulnerable users across and alongside the SRN. Highways England does not have specific targets in this area as part of the Performance Specification but in the first two years of RIS1 it reported that it had delivered 59 new and 172 upgraded crossings.⁴

Of all the ring-fenced funds, Highways England has generated the most momentum in the delivery of the CSI fund during the first half of the RIS period, having almost 900 schemes in the programme and having spent £49.2m (c.24% of its total RIS1 funding) by November 2017. Cycling and safety schemes appear to have been the easiest to identify and deliver so far, which Highways England attributes to a relatively good understanding across the regions of what these schemes might look like. Conversely, Highways England has delivered a total of 6 integration schemes in the first two years of the RIS and around 19 schemes are pending *approval* for delivery this financial year. This is potentially because of a lack of clarity over the qualities of what Highways England would consider a good integration scheme. To address this, Highways England is exploring opportunities to work with sustainable transport stakeholders and use the funds to improve the operation of bus and coach services which use the SRN. This is a welcome development, as multiple stakeholders told us that engagement with bus and coach companies had historically been poor. In order to maintain contact with bus and coach industry, we would suggest that Highways England considers inviting at least one representative to join the Designated Funds Stakeholder Advisory Group

Overall, the future pipeline is now intentionally over-programmed, by 70% for the remainder of the RIS1 and by 40% up to the end of 2020/21. In theory this should allow Highways England to manage the risk of projects falling out of the pipeline if they fail the value management stage and/or look unlikely to achieve delivery in the current RIS period. It also allows some prioritisation of schemes for selection based on their Benefit-Cost Ratio (BCR).

However, as at November 2017 Highways England was forecasting that it would spend 70% of the allocated CSI budget for 2017/18. Highways England acknowledges that it is behind schedule for delivery this financial year and, with a number of schemes due to complete construction in March, it appears the in-year programme is back-end loaded. Highways England has identified that one of the main challenges to successful delivery of future schemes is capacity within the established supply chain to deliver additional design and construction work, and the company told us that as area support contracts come to an end, providers have a tendency to deprioritise ring-fenced schemes.

⁴ Note that most of these schemes were not delivered through the integration programme, which has lacked momentum relative to the cycling and safety programmes.

We have looked at two case studies from the CSI fund: a small cycling scheme in the East of England and a signage replacement scheme in the East Midlands (see section 3.1.2).

2.3. Environment Fund

The £300m environment fund was set up to address legacy environmental issues associated with the SRN that have arisen from past design and construction practices and, where possible and appropriate to do so, to adapt the SRN to enhance its level of environmental performance.

The overarching objectives of the fund are to reduce the level of noise near homes, reduce carbon associated with the SRN, improve water and air quality, and reduce the network's impact on nearby landscapes, cultural heritage sites and biodiversity.

One notable feature of the environment fund is the large number of projects in the portfolio – almost 1,100 as at December 2017 (not including the projects planned for 2020/21) – and the relatively small value of the average scheme at c.£280k.

This proliferation of schemes is generating issues of control and oversight for the programme management office (PMO) since the reporting requirement of so many projects is challenging. Data at scheme level can be out of date and inconsistent e.g. between programme and expenditure. Highways England is starting to think about how small schemes could be bundled and managed collectively to reduce labour intensity. We have seen other clients adopt such practices and would agree that reporting needs to be proportionate and bundling of projects might be a route to achieving that.

It is important that financial control extends to appropriate risk management. We have seen examples in the fund where early stage risk allowances were low (see the Haldon Hill case study). Based on our conversations with Highways England staff, there seems to have been a perception historically that the funds were undersubscribed so controlling costs estimates was not a necessity. We think it good practice to use the best possible estimates at all stages of development and this will be increasingly important as fund availability reduces over time.

Although the RIS identified a number of areas where Highways England can deliver environmental improvements to its network, it was only set one specific KPI to fulfil as part of the Performance Specification: to mitigate 1,150 Noise Important Areas (NIAs). By January 2018 Highways England reported that it had mitigated 212 NIAs.

Noise has an allocation of £39m over RIS1 and two noise mitigation strategies are being implemented through the fund:

- A residential noise insulation scheme for smaller NIAs which see new glazing and ventilation being added to small groups of homes in an NIA
- Noise barriers alongside the carriageways for larger NIAs.

These activities are in addition to noise mitigation through resurfacing work which sits within Highways England's business as usual work programme. The PMO is acting a delivery

project manager for the homeowner scheme which is run centrally by a member of the PMO team supported by a contractor: Forrest.

Over the course of RIS1 Highways England expects to mitigate noise in around 850 smaller NIAs via the residential insulation scheme.⁵ As such it is the main driver of the performance KPI. The scheme is only applied to those NIAs comprised of less than ten residential properties. Progress was slow at the outset but a degree of momentum has been delivered though routinely meeting the agreed number of installations each week remains challenging, in part due to reasons outside of Highways England's control (e.g. willingness of homeowners to agree a date for the installation work).

Alongside road resurfacing, which is not routinely within the designated funds, noise barriers are the main mitigation method for roads noise in larger NIAs. Business case ratios can be low as barrier schemes are expensive. An acceptable business case may be dependent upon wider benefits and changes to the scheme to improve its environmental impact. Unexpected cost increases can affect value for money and overall the PMO reports that there is capacity issue in delivery; Highways England currently expect to fully deliver five out of eight schemes due for complete delivery this year.

Overall the noise component of the environment fund expects to be fully subscribed in RIS1 and has a healthy pipeline which, unlike most of the other funds, already uses a degree of prioritisation for selection. Risk is an issue here, as for the wider fund, because some installations and barrier schemes are proving more costly than originally anticipated and as a result the fund may not be able to deliver all the schemes that it hopes to presently. It will be important to learn lessons from the increasing number of delivered projects and ensure that cost estimates reflect the issues that have so far emerged from the programme e.g. for barriers, detailed design work has identified the risk that ground conditions may be worse than anticipated in the feasibility stage and has led to increases in the estimated cost of projects.

As environment is the largest fund we have completed three case studies (see section 3.1.3). These include the noise insulation programme (where we have followed an individual case through the stages of the mitigation process), a noise barrier and a green bridge.

2.4. Growth and Housing Fund

The £100m Growth and Housing fund enables Highways England to support Local Enterprise Partnerships (LEPs), local authorities and private sector developers to mobilise residential and commercial development sites that require prompt investment in the SRN to allow them to progress quickly, and to enable the delivery of jobs and homes. Table 2.1 sets out the fund's objectives.

⁵<https://www.gov.uk/guidance/how-to-apply-to-highways-england-for-noise-insulation#how-it-works>

Table 2.1: Growth and Housing Fund objectives

Main objectives	Supporting objectives
<ul style="list-style-type: none"> • Enable the delivery of as many jobs and homes as possible by 31 March 2021 • Leverage as much match funding as possible from both public and private sources • To enable the realisation of substantial (and attributable) local, place-level strategic housing and economic growth benefits 	<ul style="list-style-type: none"> • Explore alternative and innovative scheme funding mechanisms, such as forward-funding, loan funding or other financing options • Explore alternative methodologies for estimating the economic return (“additionality”) of specific investments

Source: Highways England

Potential growth and housing projects are identified through national bidding rounds (or “waves”). Local authorities, LEPs and commercial developers are invited to propose specific schemes on or close to the SRN which would unlock local development sites, must provide a financial contribution towards the cost of the scheme, as part of their bid for Highways England funding. This reduces the burden on Highways England to identify good schemes and is a different approach from that adopted in the other ring-fenced funds. The first round was conducted internally within Highways England to identify a group of pilot schemes, but the second and third rounds have been conducted externally.

Projects can be delivered by local authorities or other third parties where appropriate, although Highways England has taken the lead role in delivering some of the early projects. The fund provides a supplement to developer contributions and other sources of funding (such as local authority funding, or the Local Growth Fund) and will only be invested where development is clearly non-viable for the private sector without input from other funds.

The maximum Highways England will invest in an individual scheme will usually be £5 million, although Highways England has made contributions up to £10 million where a scheme offers “excellent” value for money. Highways England also set out an expectation that about 50% of costs will be covered by other sources, but they may consider a higher intensity of investment where both excellent value for money and a substantial viability gap can be demonstrated. Overall across the schemes which have been approved so far, Highways England is contributing just under 30% of total costs, with the remainder covered by other public and private sources.

HE has also committed to prioritising bids which have been developed to a more mature stage and the project is “shovel-ready”. For example, priority will be given to schemes where:

- planning approvals are already in place
- there is certainty of match funding
- a robust case for Highways England funding can be made, and
- jobs and homes can be delivered as early as possible in RIS1.

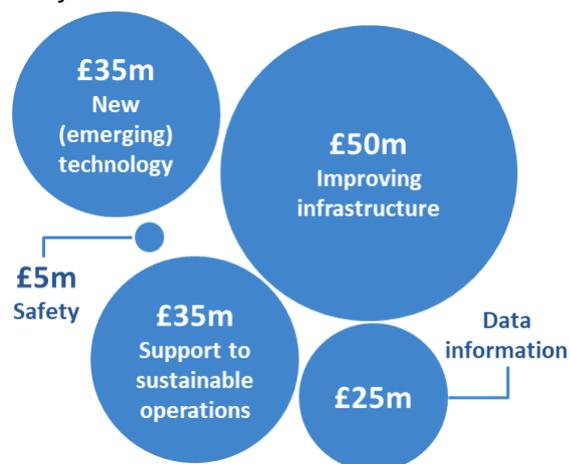
By the end of 2016/17, Highways England had spent a cumulative total of £5.3m and begun construction work on three schemes. This slow start was due to the need to identify and develop a number of schemes to deliver, but Highways England has an ambitious plan to ramp up expenditure and delivery in the last two years of RIS1. Following the second and third waves of the national bidding process, the fund is now over programmed.

We have reviewed three case studies from the Growth and Housing fund – two from the first wave of schemes approved, including a new roundabout junction in North Lincolnshire and a link road in Devon – and a junction improvement scheme in Derby from the second wave.

2.5. Innovation Fund

The RIS also provides £150m to support innovation and use of technology to help reduce average delay, improve safety and to support environmental considerations. The fund will be used to support key priorities set out in the RIS, such as trials of connected and autonomous vehicle technologies, provision of better information to customers and improved management of network and infrastructure assets.

Figure 2.1: Initial and indicative Innovation sub-fund allocations



Source: Highways England; Innovation, Technology and Research Strategy, 2016

Highways England initially allocated the fund to a number of themes shown in Figure 2.1, left, but these allocations are indicative and Highways England told us that they are likely to change.

As at the end of 2016/17, Highways England had spent a cumulative £11.5m of the innovation fund, but had only delivered one project. This is because, similar to air quality and the growth and housing funds, Highways England did not have a prepared programme of projects and the start of the RIS and required an extended period of planning and identification of potential schemes.

As at December 2017 however Highways England had plans to deliver some 85 schemes in 2017/18 with the number of potential projects in the pipeline growing each month. Highways England is also in the early stages of defining a programme of innovation competitions for 2018/19.

Examples of early projects to be funded through the innovation fund include:

- A connected and autonomous vehicles (CAV) trial
- Fuel price signs trial on the M5

- The first motorway to motorway traffic management scheme on the M62 J10 Croft Interchange⁶

We have looked at the CAV and M5 fuel price signs trial as case studies from the innovation fund.

⁶<http://www.highways.gov.uk/roads/road-projects/motorway-to-motorway-m2m-metering-pilot-scheme-m62-junction-10-croft-interchange/>

2.6. Key findings at fund level

The sub-sections above illustrate the differences between funds and the challenges that they each face. The table below provides an overarching summary of our findings at fund level.

Table 2.2: Key findings at fund level

	Pipeline development	Scheme selection & development	Governance	Delivery	Overall performance
Air Quality	RED <ul style="list-style-type: none"> Highways England (HE) has so far been unable to develop a pipeline – innovative schemes have identified few benefits. 	RED <ul style="list-style-type: none"> Issues over resource v capex funding. HE cannot apply capex fund to research based projects. Selection criteria limit number of eligible schemes and may need to be relaxed 	RED <ul style="list-style-type: none"> Currently no credible plan to overcome issues identified Case study work suggests some loss of focus on key projects (e.g. NAQMN) 	RED <ul style="list-style-type: none"> Very behind on planned expenditure. Has not met target in any year as yet. Current forecast ramp up of expenditure is un deliverable without credible plan 	
Cycling, Safety & Integration	AMBER <ul style="list-style-type: none"> Cycling and safety components of the fund now over programmed Has taken longer to develop a pipeline of integration schemes HE acknowledges that it should improve engagement of bus and coach stakeholders 	AMBER / GREEN <ul style="list-style-type: none"> Standard SAR template for scheme selection But not always possible to determine VFM of individual interventions 	AMBER <ul style="list-style-type: none"> Fund comprised of small projects – HE should consider bundling these Quality of reporting impacted by large number of schemes. Considering third party delivery e.g. via Sustrans 	GREEN <ul style="list-style-type: none"> This fund has most progress to date on expenditure & delivery However remains behind on programme in year partly due to issues with the supply chain Leading on development of evaluation approach for ring-fenced funds generally 	
Environment	AMBER / GREEN <ul style="list-style-type: none"> Has developed a strong but back-end loaded pipeline Noise is likely to be oversubscribed and is applying a degree of prioritisation to schemes seeking funding 	AMBER <ul style="list-style-type: none"> Uses alternative to standard SAR appraisal as projects routinely deliver non-monetised benefits. Technical leads provide oversight to ensure delivery of suitable benefits 	AMBER <ul style="list-style-type: none"> Fund comprised of small projects – HE should consider bundling these Quality of reporting adversely impacted by large number of schemes 	AMBER <ul style="list-style-type: none"> Currently behind on planned spending but expecting to catch up over time, though programme will be back end loaded and Would like greater flexibility to transfer funds between ring-fenced allocations 	

	Pipeline development	Scheme selection & development	Governance	Delivery	Overall performance
Innovation	<p>AMBER</p> <ul style="list-style-type: none"> • Slow start to project development but improving – a large number of new projects have been added recently • Care to be taken about overlap with other funds, particularly air quality 	<p>RED</p> <ul style="list-style-type: none"> • No prioritisation of projects. This may become more important as the fund moves towards being fully subscribed. 	<p>AMBER</p> <ul style="list-style-type: none"> • Care should be taken to ensure that rapid pipeline development does not compromise project quality. 	<p>RED / AMBER</p> <ul style="list-style-type: none"> • Back-end loaded programme not yet supported by a fully robust plan • Few outputs delivered so far and in-year expenditure forecast will not be met again this year. 	
Growth & Housing	<p>GREEN</p> <ul style="list-style-type: none"> • Overall approach differs from other funds – underpinned by competitive bidding process for grants • Expects to be oversubscribed • A pilot plus two external rounds have been completed - close liaison with LEPs who facilitate bidding waves (rounds) 	<p>AMBER</p> <ul style="list-style-type: none"> • Uses alternative to standard SAR appraisal. Built on established industry/European Regional Development Fund (ERDF) precedents • Generally “very good” value for money but some schemes only just over the “good” VFM threshold 	<p>GREEN</p> <ul style="list-style-type: none"> • Sits outside of general ring-fenced fund investment governance under the oversight of the Strategy & Planning Directorate IDC 	<p>AMBER</p> <ul style="list-style-type: none"> • Early schemes are starting to reach completion now but progress is not as rapid as budget forecasts and the programme will be back end loaded • HE delivery focused on early projects – will mainly deliver through local authorities and third parties 	

Source: CEPA analysis

Across the portfolio a common theme emerges; the funds remain substantially underspent against original plans and for the third year in a row they will fail to meet internal forecasts for the current financial year. That noted, it is the case that most funds now have a more substantial programme of projects planned for the second half of the period which indicates that the dedicated resources that Highways England has brought to the programme are having a positive effect. But this raises a further issue that the programme will now be more back end loaded than originally anticipated and therefore increasingly challenging to deliver. A number of the funds are already raising issues around delivery capacity for which there will need to be a substantial ramp up of resource.

3. CASE STUDIES

We proposed and agreed with ORR a number of case studies for analysis. Assisted by Highways England, we chose case studies which enabled us to understand the evolution of the funds, noting at this stage only a small number of projects are complete or underway. The relevance of each case study is discussed in the table below.

Table 3.1: Case study choices

Fund	Case study name	Relevance
Air Quality	National Air Quality Monitoring Network (NAQMN)	HE has a commitment to deliver approx. 50 monitoring stations in 2017-18
	Incentivising Ultra Low Emissions Goods Vehicles	One of the fund's 10 pilot studies and an area of existing knowledge within our team
Cycling, Safety and Integration	A5 Long Buckby Wharf signage	Integration sub-fund project with stakeholder interest
	A12 Gunton Church Lane to Hollingsworth Rd	Smaller project within the Cycling sub-fund project that had already been completed
Environment (excl. Noise)	Haldon Hill Green Bridge	Internal Highways England case study to inform future green bridge proposals
Environment (Noise)	Residential Noise Insulation	Significant proportion of Noise KPI to be met through insulation schemes
	A19 Peterlee Noise Barrier	To explore an alternative approach to achieving Noise KPI
Growth and Housing	M181 Lincolnshire Lakes	'Wave 1' projects identified early for funding and expected to be further along in their delivery
	M5 J29/A30 Tithebarn	
	A52 Wyvern Junctions	'Wave 2' project with a much lower BCR than previous wave
Innovation	Connected Intelligent Transport Environment (CITE) Trial	High stakeholder profile
	M5 Fuel Price Signs	Project and final evaluation completed

3.1. Case study summaries

In the sections that follow we provide a summary of each of the cases that we have developed. In the subsequent sections we discuss issues which emerge from the cases and our wider investigation of the ring-fenced funds.

3.1.1. Air Quality Fund

National Air Quality Monitoring Network

Fund: Air Quality

Value: £3.8m

Current status: In delivery with at least 12 months delay

Main stakeholders: Highways England, Defra

Benefit-Cost Ratio (BCR): Low. A simple assessment estimated a BCR of 1.2 not including wider benefits.



HE is constructing a network of 60 air quality monitoring stations across the SRN which will record real-time information to understand pollution levels on the network, monitor the impact of major schemes and analyse the effectiveness of mitigation measures.

HE has had difficulty justifying the project on quantitative grounds, with a basic assessment finding only low value for money. Instead Highways England has given a greater weight to its wider qualitative benefits, specifically an improved understanding of pollution.

Highways England's Delivery Plan committed to delivery around 50 monitoring stations by the end of 2017. In 2016, Highways England carried out its own internal health check, to ensure that the project was properly prepared for the investment decision gateway. The review made a number of recommendations to support the project, but concluded that successful delivery appeared 'feasible'. However, this has not been achieved due to delays in the procurement and award of the contracts to install the monitoring stations, finalising station locations and in constructing the concrete plinth on which the stations stand. Completion of the network is now expected by December 2018, which represents a significant delay. Highways England has learnt lessons in that the commercial and procurement strategy should be considered early in a project's development.

Moreover, Highways England has yet to finalise the data strategy for the project and opportunities to share data with Defra's systems requires additional functionality which is not included in the business case. Highways England needs to urgently address its plan for benefits realisation.

The slow progress of the delivery of the NAQMN project is indicative of how Highways England is struggling to disburse the air quality fund. This is in part due to the difficulty of finding projects that satisfy the strict criteria of the air quality fund, but the PMO also reported that the delivery parts of the business have lacked engagement with the programme and have other priorities. The air quality fund best exemplifies the lack of momentum generated in some of the ring-fenced funds, and the risk that Highways England is unable to deliver on its commitments during RIS1.

Lessons learned:

The project highlights:

- **Lack of focus.** The key benefits of the NAQMN derive from the earlier delivery of future enhancement schemes by mitigating or avoiding air quality concerns. But it seems Highways England has lost focus on the business case (earlier realisation of the benefits of major schemes) as completion of the monitoring network has slipped significantly.
- **VFM concerns.** The NAQMN will only have an indirect impact on air quality, and the potential benefits of this project are uncertain, difficult to quantify and may not be realised for many years. Highways England has not yet put in place a plan to evaluate whether the project provides value for money, or to inform any future decision to expand the network. Highways England should pay special attention to cases such as this that rest on wider benefits but should not shy away from this. There is wider stakeholder support for these

National Air Quality Monitoring Network

types of projects as demonstrated by the UK government's plan for tackling roadside nitrogen dioxide concentrations.⁷

- **Project planning and contingency.** Highways England has learned lessons from this project that the commercial and procurement strategy needs to be considered from an earlier stage in the project's development and have contingency plans in place. For example, Highways England acknowledges that a single national contractor could have resulted in fewer contracting issues, and that a number of fall-back station locations could have mitigated power supply constraints.
- **Low priority for delivery teams.** Delays in completing the network can be seen as a manifestation of a wider issue of limited engagement from regional Highways England teams. The delivery of projects from the ring-fenced funds are often not a priority for regional teams, who must also deal with other pressing business-as-usual activities.
- **Capital / resource funding.** This project demonstrates that Highways England requires both capital and resource funding to deliver and maintain air quality assets, but this is not possible solely through the use of the air quality fund which is capital only. Other air quality pilots have been delayed by the need to secure resource funding.

⁷ HMG (July 2017) *UK plan for tackling roadside nitrogen dioxide concentrations: detailed plan*

Incentivising Ultra Low Emissions Goods Vehicles

Fund: Air Quality

Value: £0.2m

Current status: Trial extended and in delivery, final report expected by March 2018

Main stakeholders: Highways England, Energy Saving Trust

Benefit-Cost Ratio (BCR): N/A – economic appraisal has not been attempted



HE has partnered with the Energy Saving Trust (EST), a social enterprise with the objective to promote the sustainable use of energy and transport and expertise in providing support to ultra-low emission vehicles (ULEVs) users. The objective of the trial is to investigate the use of an incentive to encourage fleet operators to switch from diesel powered vehicles to ULEVs. The Air Quality Fund has provided a little over £200k to the EST to purchase 17 electric vans to be leased to fleet operators for the trial.

The findings from the investigation are due to be published in March 2018 but one finding immediately apparent early in the trial is that the range of ULEVs available on the market is limited to smaller vans as opposed to heavier vans or lorries. This caused some delays in the project, which had initially hoped to have lorries available for leasing too, and led to the changing focus of the project towards understanding the market for ULEVs and the manufacturers potentially developing the technology required for larger ULE goods vehicles.

Lessons learned:

The project highlights:

- **Lack of momentum.** Initially scheduled as a three-month trial to start in early 2017, Highways England has told us the final report is now due to be published in March 2018. The difficulties experienced in getting the trial up and running are similar to those experienced elsewhere in the air quality fund (see the NAQMN case study).
- **Delivery through stakeholders.** Highways England has taken advantage of stakeholder supply chains using a grant-style approach, which is expected to allow faster delivery than would have otherwise been possible. Highways England may want to consider using this approach more frequently across the funds where appropriate.
- **Programme approval.** Funding was sought through an umbrella portfolio, which had previously been IDC approved to spend up to £1.54m on Air Quality pilot studies and management support. Grouping projects under one umbrella is a proportionate method of ensuring effective reporting and management of multiple small projects, and might also be applicable to the Environment and CSI funds.

Our experience with other ULEV schemes highlights:

- The difficulty in finding schemes that are justifiable purely on the basis of a positive air quality impact. For example, TfL's diesel scrappage scheme has benefits on air quality but interprets this criterion in its broadest sense and takes account of wider benefits – in this case, the rationale for the scheme stresses its social and economic benefits.
- A potential need for greater flexibility in the interpretation of the air quality fund's criteria. This would allow for more pragmatic schemes that approach air quality holistically with other wider benefits.

3.1.2. Cycling, Safety and Integration Fund

A5 Long Buckby Wharf signs

Fund: Cycling, Safety and Integration (Integration sub-fund)

Value: £160k

Current status: Nearing the end of detailed design. Significant delay.

Main stakeholders: Network Rail

Benefit-Cost Ratio (BCR): Not possible to quantify benefits.



In 2008, Northamptonshire Country Council identified two rail bridges crossing the local road network with headroom measured incorrectly. Although they changed signs on the local roads to reflect this, Highways England was not made aware until 2014 and so signs at junctions on nearby trunk roads remained incorrect. This caused problems as vehicles would turn onto the local network before reaching one of the bridges and being forced to reverse back onto the trunk road after realising they were overheight. In worst case scenarios, the bridges were being struck, resulting in delays on the rail network while safety inspections took place.

Lessons learned:

The project highlights:

- **Low priority.** Despite being a relatively straightforward project first identified in 2014, the project has yet to be completed. It is currently in the design phase, with construction expected in 2018/19. This is a decade since the issue was first identified and addressed on the local network and is evidence of the low priority given to some ring-fenced funds projects.
- **Business-as-usual.** The funding for this project was originally intended to come from Highways England's business-as-usual activity, but when this funding was pulled the ring-fenced funds were seen as the only remaining delivery route.
- **Lack of momentum in Integration sub-fund.** Highways England told us that it has been more difficult to establish a pipeline of Integration schemes compared to the Cycling and Safety sub-funds. This could in part be due to the delivery arms of the company having less understanding of desired integration outcomes. Although a pipeline of schemes has now been established, given these challenges there is a risk that it could be used to fund projects that should have been delivered elsewhere in the company.

A12 Gunton Church Lane to Hollingsworth Road

Fund: Cycling, Safety and Integration (Cycling sub-fund)

Value:

Current status: Complete.

Main stakeholders: Sustrans and Suffolk County Council

Benefit-Cost Ratio (BCR): Not possible to quantify benefits.



The Gunton Church Lane to Hollingsworth Road scheme involved a series of adjustments to a busy junction and pedestrian/cycle crossing on the A12 in Lowestoft. Works included the removal of pedestrian islands, widened footpaths to avoid pedestrian/cyclist conflicts, new footpath signage, a narrowed junction to reduce traffic speed, and the creation of a new off-road cycle facility to connect the cycling network to a nearby quiet street. The project was identified in consultation with Sustrans and the local authority (Suffolk County Council) as part of a package of wider measures.

It was initially estimated that this individual intervention would cost around £200,000 but Highways England told us during interview that it had been possible to deliver the project for less than £50,000 because efficiencies had been found during tendering of the package.

The project is now delivered and complete. But Highways England did not provide us with any close-out documents, so we are not able to determine what the company's close out procedures are for such projects.

Lessons learned:

The project highlights:

- 1. Stakeholder engagement.** The scheme had support from external stakeholders which helped to ensure that it was identified for early delivery.
- 2. Value for money.** Highways England appears to have secured better value for money through the tendering of the project.
- 3. Close-out procedures.** We did not see evidence of the company's close-out procedures. This is an important step in informing future investment plans and securing best value for money from the fund's activities.

3.1.3. Environment Fund

A38 Haldon Hill – Green Bridge

Fund: Environment

Value: £10.7m

Current status: Detailed design with some delay against programme

Main stakeholders: Highways England, Forestry Commission, Devon County Council

Benefit-Cost Ratio (BCR): Medium. Initially assessed at 1.8 but reassessment of landscape benefits results in a BCR of 3.7.



HE is in the design stages of a new 'green bridge' on the A38 at Haldon Hill in Devon. The Environment Fund will provide £10.7m for its design and construction. Green bridges are structures designed to provide wildlife and non-motorised users with easy and safe crossings of main roads and railways.

This is a high profile scheme within designated funds delivering walking cycling landscape benefits in addition to improved road safety in a location which is prone to motorists hitting deer. The scheme predates the establishment of designated funds but it fits well with the remit and has been brought into the EDF funds control.

Despite a lengthy development period to date it is still in the detailed design stage, in part because the recent road safety audit has raised some issues related to lighting/shadows being cast on the road. But more importantly there is a long standing issue of land assembly for the project. The forestry commission leases but does not own land needed for the scheme and is in negotiation with the land owner to secure an agreement.

Lessons learned:

The project highlights:

- **Learning from projects.** Highways England's commitment to learning from new types of project before proceeding to a full programme of similar work and its intention to develop lessons learned as the project progresses.
- **A potential need for greater flexibility in the allocation of funds.** This project is entirely funded by EDF but could also be supported by CSI. Highways England's current processes don't support projects which span multiple funds. Whole projects are allocated to a single fund
- **Delay.** As with other cases this project is in delay. In this case in part due to land having to be acquired. This should have been a key risk in the risk register and an important factor in choosing this location given the known difficulties of acquiring land for projects in the UK
- **Immaturity of risk processes more generally.** Limited competition for some funds to date has allowed for cost growth that is simply drawn from the fund (rather than being part of the project costing/contingency).

Noise schemes – Example homeowner noise mitigation and A19 Barrier Scheme at Peterlee

Summary

The noise component of the environment designated fund drives a RIS1 KPI related to mitigation of noise important areas (NIAs). Two strategies are being implemented via the fund:

- A residential noise insulation scheme for smaller NIAs which see new glazing and ventilation being added to small groups of homes in an NIA
- Noise barriers alongside the carriageways for larger NIAs.

Residential noise insulation

The smaller NIA programme was slow to start but is now showing momentum. Highways England's processes for liaising with customers have developed and improved over time

However the scheme is currently failing to consistently hit the forecast number of installation required to meet the KPI target of mitigating around 800 NIAs via the scheme.

Barrier Schemes

Barrier schemes are both more complex and costly involving construction of long length barriers along the carriageway



Key issues

- Delivery – at the level required to meet the KPI requirement
- Potentially, reliance on a single contractor
- Process complexity/labour intensity and the potential for simplification.
- Eligibility rests on size of NIA – Highways England has limited the scheme to NIAs with fewer than 10 properties on VFM grounds, but it might be worth revisiting whether the threshold to might be raised to a larger number of properties
- Fund availability and prioritisation to meet all 800 NIAs

Key issues

- Risk – cost escalation is usual and accounted for but the fund is close to fully allocated so limited scope for the unexpected
- Low BCRs – will affect VFM if costs increase unexpectedly e.g. for geotechnical issues
- Delivery capacity – Highways England will fall behind on schemes due to be delivered this year.

3.1.4. Growth and Housing Fund

M181 Lincolnshire Lakes

Fund: Growth and Housing

Value: £8.7m

Current status: Awaiting final approval – delayed by funding shortfall

Main stakeholders: North Lincolnshire Council

Benefit-Cost Ratio (BCR): Excellent – over 50.



In July 2016 Highways England publicly announced that it would provide £8.7 million towards a new roundabout junction on the M181 in North Lincolnshire through the Growth & Housing Fund (GHF). The new junction could unlock two housing development sites which are predicted to support 1,300 jobs and 1,500 homes by 2021, with more predicted beyond the end of RIS1.

Planning permission for the two housing developments are conditional on the improvement works. The new junction is seen as the last barrier to the delivery of the planned development, and so Highways England identified the scheme internally as a potential pilot for the GHF. At that time, the total cost of the project was an estimated £13.4m, with two local developers contributing £4.7m towards the cost of the improvement works. According to Highways England’s value for money analysis, the scheme provided ‘excellent’ VFM with a BCR of over 50, and should make a significant contribution to the local economy.

Although the housing developments cannot be delivered without the new junction, the developers were not willing to pay for the scheme in full, and Highways England’s viability and deliverability assessment found that the project would not have gone ahead without Highways England funding. However, it also found that the developers’ assumed build out rates were very optimistic, and that there is a risk that the predicted jobs and homes are not delivered in full by the end of the RIS period. Highways England does not have control over the delivery of the associated housing developments, but it has incentivised the developers to deliver by mandating their full contribution to the scheme up-front, and the developers will be required to report on the delivery of their commitments.

HE expected to start construction in early 2017, but this has been delayed by approximately a year. The delay has been caused by changes to the wider planning application, but the design of the scheme has also evolved since it was approved and led to a higher cost estimate and a c£5m funding gap – equivalent to a c37% increase in the original cost estimate. Progress on the scheme has been paused whilst solutions to the funding gap are sought, but we understand that Highways England do not plan to increase their contribution to the scheme.

Lessons learned:

The project highlights:

- **Delay.** In a large portfolio of projects it is reasonable to expect that some might fall behind schedule. Highways England is now building up an ‘over-programmed’ pipeline of GHF schemes to account for projects which are delayed or drop out.
- **Fully assured cost estimates.** Highways England has recognised that project designs and cost estimates need to be fully assured from an early stage, including an allowance for uncertainty, and told us that they have addressed this issue. This is critical to avoid funding gaps which prevent other schemes from progressing to delivery.
- **Excellent value for money.** The high BCR generated by this scheme illustrates the potential for small highways improvement schemes to deliver actions beyond business as usual and offer excellent value for money. The final BCR will depend on how the funding gap is filled.
- **Enhanced oversight of benefits realisation.** Where Highways England has less control over the realisation of assumed benefits, it has put mandatory reporting obligations on the developers.

M181 Lincolnshire Lakes

This information is key to any future evaluation of the fund's success.

M5 J29 / A30 Tithebarn

Fund: Growth and Housing

Value: £4.5m

Current status: Construction underway and expected to complete by Spring 2018

Main stakeholders: Devon County Council

Benefit-Cost Ratio (BCR): 18 – 'excellent' value for money.



This is a £9.1m project to provide a cycle bridge and a new link road to increase the capacity of a strategically important intersection between the A30 and M5, and to accommodate the development of several key housing and employment sites nearby.

The scheme will be delivered by Devon County Council, but Highways England are contributing £4.5m from the Growth and Housing fund. The scheme was identified internally by Highways England as a priority pilot scheme in its first wave of projects. Construction is now underway and expected to complete by Spring 2018.

Highways England's appraisal shows that the scheme should offer "very good value for money" and has a BCR of 18. It is also estimated to unlock 467 jobs and 350 homes by 2021, and a further 1,800 homes beyond this. Highways England also estimate that it will lead to an increase in of £155m in the region's Gross Value Added (a measure of local economic output).

However, Highways England could learn some lessons from the development of this scheme. Although it had completed its scheme appraisal by March 2016, the decision to proceed was not approved by Highways England until September 2016 because they had yet to establish the necessary investment control gateway. Highways England told us that this resulted in only a marginal delay to the project and, due to interfaces with other projects being taken forward by DCC, it did not prevent Highways England from getting on site to start the work.

In addition, Highways England has yet to establish a monitoring and evaluation plan for the Growth and Housing fund, which is relevant to this project as it will be among the first schemes to complete. This will be vital if future plans for investment in similar schemes are to be informed by a robust evidence base.

Lessons learned:

- 1. Stakeholder delivery.** Delivery of the scheme through Devon County Council may have sped up the delivery of this scheme and enabled the delivery of jobs and homes more quickly than would have otherwise been possible had Highways England undertaken the work itself.
- 2. Investment controls.** Even though this scheme was ready to proceed, Highways England had yet to establish the appropriate investment control gateway to approve Growth and Housing schemes, and did not do so until late 2016.
- 3. Monitoring and evaluation.** Highways England has yet to establish a monitoring and evaluation plan for the Growth and Housing fund. Although it acknowledges that this is an issue, it does not appear to have work in progress to fill this gap – even though a number of schemes are now in delivery. Given the longer time horizons involved in the delivery of major housing and commercial developments, and the wider economic benefits that might be unlocked, Highways England will have to develop a bespoke POPE process.

A52 Wyvern Junctions, Derby

Fund: Growth and Housing

Value: £2.6m

Current status: Construction underway and due to complete in April 2019.

Main stakeholders: Derby City Council and D2N2 LEP

Benefit-Cost Ratio (BCR): 1.5 excluding wider economic impacts, or 2.2 when included. The latter represents 'good' value for money.



The A52 Wyvern Transport Improvements scheme is a package of measures to improve traffic flow on the A52 and to reduce peak hour congestion at a key intersection between local roads and the SRN. It is also a necessary improvement to unlock the development of the adjacent Derby Triangle site, which could help to deliver up to 3,000 jobs in the Derby area. It was identified through the second wave of bids for the Growth and Housing Fund launched in spring 2016, which invited local authorities and LEPs to submit proposals to Highways England for funding. Construction started in late 2017 and is expected to take 18 months. Highways England expects the scheme to be open to traffic by April 2019.

The total cost of the project is estimated at £14.9m, of which the Growth and Housing Fund will provide £2.6m. The private developer is contributing £2.9m and the remaining funding is from other public sources – primarily the Local Growth Fund. Highways England's economic impact assessment demonstrated that the project could increase regional GVA by around £130m. But the traditional BCR generated by the scheme is not as good as other case studies we looked at from the Growth and Housing fund. Excluding wider economic impacts, the BCR of the scheme is just 1.5, or 2.2 if they are included. Although this represents "good" value for money, it is close to the threshold below which schemes would not be funded.

Lessons learned:

- **Value for money.** This particular scheme compares less favourably to other projects in the Growth and Housing fund pipeline on VFM grounds. This may be because of a shortage of other schemes offering "very good" VFM passing the initial sift, perhaps because the initial sift is too strict, or else because there is a blockage in identifying potentially better VFM schemes.

3.1.5. Innovation Fund

M5 Fuel Price Signs

Fund: Innovation

Value: £2.3m

Current status: Trial completed December 2017.

Main stakeholders: Department for Transport

Benefit-Cost Ratio (BCR): N/A



The Innovation ring-fenced fund has spent around £2.3m funding a trial of four signs on the M5 southbound from Bristol to Exeter that display the price of fuel at several nearby service stations. The aim of the trial was to investigate whether this would be able to provide accurate price information to drivers on the motorway and therefore help increase competition between services stations and reduce the cost of fuel. The results of the trial will be used to inform Highways England's recommendations on whether to roll out the scheme to other locations.

The trial was name-checked in the RIS and its provision was a ministerial commitment. It is therefore not necessarily typical of the type of project which Highways England aspires to deliver through the Innovation fund, or the way in which those projects may be identified. For example, the business case for the trial did not produce any value for money assessment, nor did it consider alternative approaches, such as the 'do nothing' option. However, it serves as a useful case study demonstrating how the fund approaches the delivery and evaluation of projects.

The trial was completed in December 2017 broadly on budget, although a small funding extension was required while the company and DfT decided how best to decommission the signs and communicate the outcome of the trial to the public.

While the final evaluation published in February 2018 concluded the trial successfully investigated the criteria it set out to investigate, a wider roll out of the scheme would not offer value for money. Although the pilot signs were reliable and left safety unaffected, they also had no significant positive impact on behaviour of drivers on the motorway, nor did they reduce fuel prices at the service stations. The final evaluation suggested reusing the engineering infrastructure installed for the trial by testing other sign technology, to help increase the value of money already spent.

Lessons learned:

The project highlights:

- **Informing decisions.** The trial provided Highways England and government stakeholders with good evidence that could be used to inform Highways England's recommendations on whether to roll out the scheme more widely. The criteria with which the scheme was to be evaluated were clear from the beginning of the project.
- **Initial project screening.** Although this particular project was a ministerial requirement and name-checked in the RIS, it remains necessary for Highways England to adequately screen all projects to ensure their funds are being used in the most effective way possible. This may in some cases require making it clear to government stakeholders that Highways England would not otherwise move forward with a scheme unless given express instructions to do so.

Connected Intelligent Transport Environment (CITE) Trial

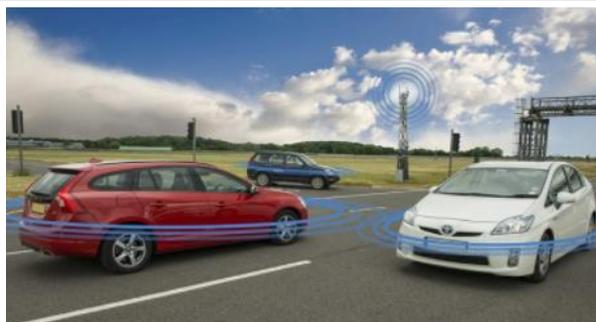
Fund: Innovation

Value: £4.9m

Current status: In delivery

Main stakeholders: Visteon, Jaguar Land Rover, Coventry City Council, Coventry University, HORIBA, Huawei, Siemens, TfWM, Vodafone, University of Warwick

Benefit-Cost Ratio (BCR): N/A



The Connected Intelligent Transport Environment (CITE) trial is an industry led initiative to test the use of various Connected and Autonomous Vehicle (CAV) technologies on the SRN. It is being delivered through a consortium of multi-national companies, supported by Highways England. The project is expected, among other things, to establish a live test environment that will encourage vehicle manufacturers to use the UK as a hub for connected & autonomous vehicle research and development. It will also help to facilitate the development of CAV technologies in compliance with Highways England safety and security protocols.

Highways England initially approved £1.7m for the project in 2016, however further work on construction design and initial safety and cyber security assessments, revealed that this would be insufficient to deliver the trial. Highways England increased its contribution to £4.9m, which makes the total cost of the trial around £10.6m.

Lessons learned:

The project highlights:

- **Optimism bias.** There is a need to ensure projects are providing robust evidence to support early cost estimates in order to mitigate the risk of increasing costs during the detailed design stage. Including contingencies for risk and optimism bias is important, especially as the pipeline of innovation projects grows.
- **Evaluation criteria.** Although Highways England are intentionally taking a supporting role in this area of research, we have not seen evidence of its involvement in any future evaluation. This will make it difficult to determine whether the trial has been successful. Given Highways England are a key stakeholder and the largest single contributor of funding towards the project, they should expect to have a greater say in how the evaluation of CAV technology should be conducted.

3.2. Summary of issues emerging from case studies

Our review of the case studies supports the overarching issue identified at scheme level; slow progress. They also generate a number of additional themes including:

- Momentum, although growing, remains well behind original expectations for all funds and is creating a bow wave of delivery in the later years of the RIS period that may not be sustainable.
- Delivery capacity and procurement approach e.g. use of Highways England's supply chain for most funds. Given the back end loading of the programme perhaps dedicated delivery at scheme level, use of alternative supply chains (third party stakeholder etc.) or grant models⁸ would help ensure that Highways England obtains the benefits that the funds seek to deliver
- Aspects of control for example related to business case monitoring, reporting, risk pricing. The PMO is grappling with many of these items already but there is a way to go before it has complete oversight and control of the funds at the highest level.

⁸ Highways England raised a concern about control over delivery and accounting treatment in grant models, but we note that these issues have been addressed in the Growth and Housing Fund.

4. STAKEHOLDER ENGAGEMENT

4.1. Overview

In addition to discussions with Highways England and case study development, in the preparation of our report we collected views on Highways England's management of the ring-fenced funds and its stakeholder engagement from a group of external stakeholders with an interest in the ring-fenced funds. We conducted interviews with a select group of key stakeholders and attended the Designated Funds Stakeholder Advisory Group – the main forum which Highways England uses to seek the advice of interested stakeholders. We also carried out an online stakeholder survey, the responses to which are also captured in this report

We conducted the interviews and survey on the basis that we would not attribute the feedback to individuals or individual organisations, except in cases where the stakeholder in question gave us consent to do so. Accordingly, this section summarises the views we collected without attribution. Alongside our main report, we have presented ORR with more detailed feedback from stakeholders in a separate, confidential annex.

4.2. Summary of key messages

We found that stakeholders are very positive about the existence of the ring-fenced funds and regard them as a real opportunity to realise important social, economic and environmental outcomes that have not been the focus of Highways England main funding. In particular, key stakeholders emphasised how the funds were set up to go “above and beyond” Highways England's core business, and the role they can play in mitigating the impact of the SRN on local communities and the wider environment.

But we were told that the experience of engaging with Highways England was variable and sometimes difficult. Even members of the Stakeholder Advisory Group described early engagement as challenging, although most considered that it had improved over time as all parties have learnt from the experience. These stakeholders noted that the experience remains mixed even now. They recognise that they have a privileged position as members of the group pointing out that others which are not members were likely to be less positive about engagement. Some pointed to excellent large scale set piece engagement which they felt has gone well but most said that engagement at local level is often poor and inconsistent. Stakeholders outside of the Group were indeed less positive about their engagement with Highways England, and told us that they believed Highways England had only belatedly realised the amount of effort and resource required to engage stakeholders effectively.

Emerging views from the Stakeholder Advisory Group suggest that the group requires a wider membership. Although environmental, sustainable transport and vulnerable user groups are well represented, the group would benefit from representative parties

interested in the air quality, growth & housing and innovation funds. One made an interesting point about funds potentially coming into conflict noting that from their perspective some growth and housing schemes were detrimental to the cycling and pedestrian objectives of the funds.⁹

The nature of Highways England engagement was not to the satisfaction of all stakeholders. It was described as “one size fits all” and “all one way”. Stakeholders told us that early in their engagement Highways England was happy to talk, but had a tendency to flood stakeholders with detailed information (which was not always relevant to their individual interests) about their plans and invite feedback. We infer from these comments that the format of engagement has previously limited stakeholders’ ability to provide meaningful input and shape Highways England’s plans. We noted that members of the Advisory Group felt that the group was working together to improve engagement, that the process was worthwhile, and that they were hopeful it would improve further over time. The responses to our online survey expressed very similar sentiments, but were more direct when dealing with areas of dissatisfaction.

Other consistent themes include:

- a lack of transparency with opaque processes in terms of priorities and delivery;
- processes being bureaucratic; stakeholders lack clarity on the process for obtaining funds and getting applications ‘right’; and
- they suggested a need for improved two way communication.

These themes are developed further below.

4.3. Submission guidance

Stakeholder Advisory Group members told us that a high priority for them was to obtain definitive Highways England submission guidance. They told us that it was not clear in some circumstances what Highways England considers a ‘good’ project to be and that this was hindering their submissions. This is particularly the case with environmental schemes that fall under the themes of biodiversity, heritage, culture etc. Stakeholders recognised that in some cases Highways England has developed guidance where previously there was none, but felt that Highways England could learn lessons from the criteria, guidance and grant processes used by other organisations with which they were more familiar. They felt that this guidance should be readily available on Highways England website and one stakeholder

⁹ Highways England provided evidence to us that potential conflicts between Growth and Housing schemes other funds have to be explained in the scheme application form and are considered at Designated Fund Steering Group meetings. The company also told us that other schemes (e.g. M5 J29 Tithebarn) will deliver benefits for cyclists. But our survey evidence suggests that some stakeholders are not sufficiently bought into the processes to resolve potential conflicts.

suggested that Highways England should publish its guidance notes for the funds and application forms on gov.uk.

However, some stakeholders told us that they felt that a lack of understanding could become a frustration that leads to reduced interest in utilising the funds. This is a risk for Highways England as it could lead to fewer projects entering the pipeline and to the provision of funds themselves in future RIS periods.

Stakeholders also said that interpretation of Highways England's bid guidance was subjective. They said that this subjectivity made it difficult to know what Highways England would think about their proposals and hindered the development of well-prepared bids. Some stakeholders said that they had received inconsistent advice from Highways England staff because the interpretation of the funding criteria depended on who you spoke to. They sometimes received mixed messages from different Highways England teams. Local Highways England employees interpreted the criteria one way but a different response was provided from the central team.

During our discussions with certain stakeholders, they made frequent references to other grant awarding organisations which they worked with e.g. the Heritage Lottery Fund. They reported being more familiar and comfortable with the grant application processes run by these organisations which suggest that there is good practice available that Highways England could draw upon. They recognised that this is due in part to the learning curve which Highways England has been on with the ring-fenced funds, but suggested that Highways England should now explore areas of good practice amongst other organisations which could serve to improve its own project guidance and application processes. Stakeholders felt that this would help to improve quality of submissions which Highways England receives and save its staff time in the long run.

4.4. Transparency

The stakeholders that we interviewed viewed Highways England's decision making processes as opaque. We spoke to stakeholders who were managing live applications. They were unfamiliar with key features of the governance process, such as the regularity of Investment Decision Committee (IDC) meetings. They also had a very limited understanding of what factors Highways England would take into account when assessing the bid, particularly around value for money. Consequently, they were uncertain how quickly Highways England could process the bid and when they might receive a final decision. Stakeholders also spoke about the difficulty of managing applications which involved multiple funders. In some cases, it is apparent that securing Highways England approval delays the process of securing funding from other organisations to take their projects forward. There is a real sense of frustration amongst stakeholders at what they regard as a material lack of transparency.

We were also told that Highways England should improve its reporting on progress of schemes which are of particular interest to stakeholders. Stakeholders report that they often have no idea of scheme progress. Highways England should ensure that stakeholders receive updates ahead of key milestones and should give them sufficient detail to hold Highways England to account against its commitments.

4.5. Supply chain and central co-ordination

One stakeholder noted that it in general it was helpful to get the local Highways England area operator to buy into your project, as this gave it a better chance of successfully receiving funding. However, Highways England's supply chain showed "patchy" interest in engaging with stakeholders and ring-fenced fund schemes sometimes felt like a low priority. There was a general acknowledgment amongst stakeholders that ownership of this agenda was not felt consistently all the way down the organisation. Stakeholders would like to see these issues of ownership and culture tackled in the future, but were realistic with regards to how quickly this could be achieved.

Most stakeholders seemed more positive about the help they had received from the programme managers and technical leads (central Highways England staff) to develop certain bids and, in some cases, to get them accepted. Although they were satisfied with this engagement, they recognised that they enjoyed privileged access to key Highways England staff and that it was not fair to organisations without that access (e.g. those more reliant on volunteers). They also suggested that this was not sustainable given the large number of individual schemes in some of the funds, but felt like this had been the best way of getting projects developed because of the mixed experience of engaging with local Highways England staff and contractors. They did feel that there was an important coordinating role for central Highways England staff when the proposals crossed area boundaries and involved a number of local Highways England areas, as stakeholder found it difficult to get consistent buy-in from a larger number of Highways England staff.

One reason which was advanced for the patchy interest in the supply chain was that contracts had ended (in some cases Highways England had ended them early) and new operators had been appointed, and Highways England had also changed its procurement strategy so that asset management is now more client-led. Stakeholders recognised that this discontinuity is likely to have had some detrimental effect on incentives for the supply chain. To overcome this, stakeholders were working with Highways England to develop an approach which made better use of their own supply chain. For example Highways England and Sustrans are developing a pilot which could help deliver more schemes through the CSI fund, but we were told that there are still challenges which have not been resolved and the pilot has not yet been signed off by Highways England. This is clearly another area of frustration for stakeholders, who would like Highways England procurement to be more flexible.

4.6. Fund allocations and RIS2

Stakeholders recognised that one of the main issues with the ring-fenced funds in RIS1 was the difficulty with which Highways England had spent the Air Quality fund. Key stakeholders suggested that the best use of the funds would be to (a) encourage switching to cleaner vehicles, (b) contribute to schemes which also helped with air quality on the local road network, and (c) reduced traffic volumes.

This led to a discussion about RIS2 and whether more money should be allocated to some funds in RIS2 and less to others. Overall stakeholders, not unexpectedly, want the RF envelope to be larger for RIS2.

Recommendation 1: Stakeholder engagement and transparency

- a. Stakeholders need greater and more effective methods of involvement than are available at present
- b. Highways England should make it an immediate priority to have clear guidance on project requirements and make sure this is widely available with appropriate application forms easy to access
- c. Highways England should make it an immediate priority to routinely feedback on projects. As suggested elsewhere in the report, calling for potential projects in managed waves (with clear outcomes from each wave) could be a way forward
- d. Highways England should provide stakeholders with more transparent information on which projects have been funded and provide updates on their progress. The company should produce an annual public facing report on its progress against ring-fenced fund commitments.
- e. Highways England should consider further opportunities to rely on grant style provision in some funds and use of stakeholder supply chain for delivery to limit its own work load given issues of momentum, delay and the back end loading of the programme.

5. PART 2: CROSS-CUTTING ANALYSIS OF THE RING-FENCED FUNDS PROGRAMME

This part documents and analyses the themes and issues which emerge from the case studies and the wider evidence base collected through our review of the ring-fenced funds. The aim is to:

- Provide an overview of how the ring-fenced funds are managed;
- Describe our understanding of how Highways England identified, sifted and developed potential schemes within the ring-fenced funds, noting that this can vary by fund, and our key findings;
- Make recommendations on how Highways England can further improve its management of the funds.

5.1. Fund management

The ring-fenced funds were introduced at the start of the RIS1 period and cover a number of new activities for Highways England. Because of this, the company was relatively unprepared to manage the programme at the start of the RIS. There was an initial period where it needed to organise plans for each of the funds, establish management structures and mobilise internal resources towards identifying a pipeline of potential schemes.

Initially, the responsibilities for fund management were carried out by internal Highways England Technical Specialists in addition to their business as usual roles. Whilst these specialists had particular expertise, they did not have the available time or the right skills to manage a large portfolio of projects. The funds were originally managed separately, with little programme level oversight, and so a lack of consistency in processes and controls between the funds was a significant risk.

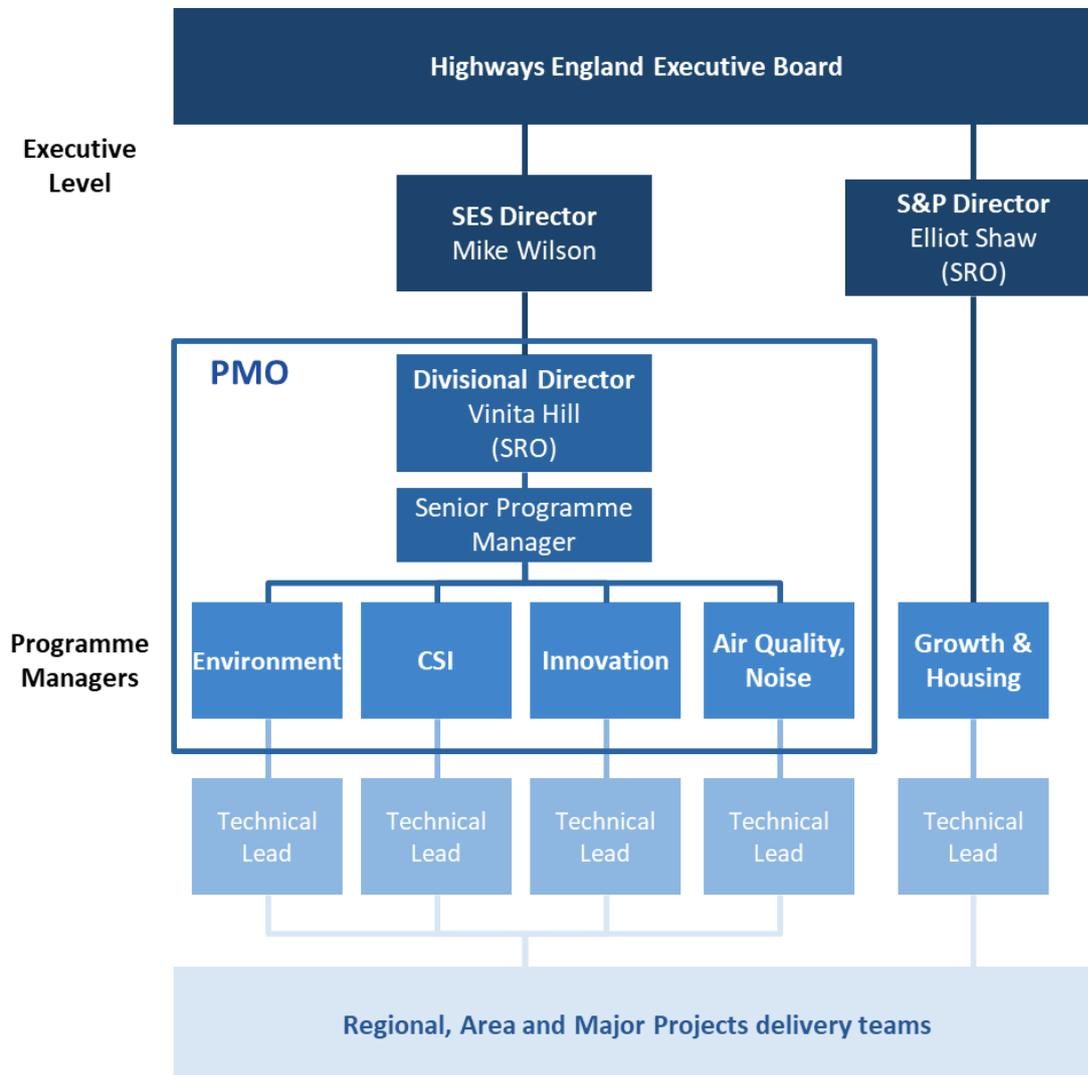
Highways England acknowledged that this approach proved ineffectual and contributed to a lack of early momentum in the programme which affected delivery. In November 2016, a review carried out by Highways England's internal audit team found that the ring-fenced funds had not been given sufficient prominence within the company and lacked the level of resources required to deliver a c.£1bn programme of work. One of the auditors' key findings was that basic governance documents were incomplete (see Box 1) and that no clear oversight of funds had been established.

Although some audit recommendations remained open when Highways England revisited the internal audit findings in November 2017, progress has been made on programme management and oversight.¹⁰ There is now a dedicated Programme Management Office (PMO) team in place with resource to manage and oversee the funds, and to report

¹⁰ *Highways England Reviews of Designated Funds: Findings and Actions as at November 2017*

progress at both fund and programme level. Figure 5.1 shows how the PMO fits within Highways England’s organisational structure.

Figure 5.1: PMO organisational chart



Source: Highways England

The PMO is staffed by a team of Programme Managers who each take responsibility for a fund and are supported by a Technical Specialist. The PMO is headed by a Senior Programme Manager, and leadership of the team has been strengthened by the recent appointment of a new divisional director (on a one year secondment). Highways England has told us that they are considering whether they need to strengthen the team further. We consider this may be necessary over the remainder of the RIS period as the value of the programme in delivery ramps up considerably (funding available for 2019/20 represents a greater than 15% increase on 2017/18). The divisional director is also the Senior Responsible Officer (SRO) and provides management and oversight of the PMO team. She reports to Mike Wilson, Highways England Safety, Engineering and Standards (SES) Director, who sits on the company Executive Committee.

Recommendation 2: Programme leadership

HE should consider whether it needs to make a permanent appointment to the director role to lead the PMO. Given the planned ramp up of expenditure and delivery in 2018/19, 2019/20 and 2020/21, the programme may become more difficult to manage and the team would benefit from senior level representation to help drive delivery across all areas of the business.

The role of the PMO is to liaise with the project managers who are responsible for individual projects within their area or region and seeks to encourage them to report financial and delivery updates on a timely and consistent basis. The PMO also works with the regional area teams to help liaise with external stakeholders, and to develop new projects and emerging proposals. This is a relatively broad remit and, given the large number of projects in some of the funds, a challenging role.

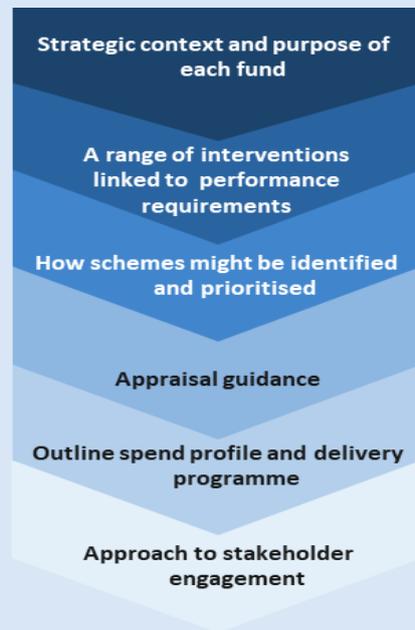
The PMO covers all of the ring-fenced funds except for the GHF, which reports to a different Executive Director. This is because oversight of programmes which require new ways of working (such as competitive bidding rounds and third-party contributions) and are aimed at Highways England's role in supporting economic growth objectives, are managed with the Strategy & Planning (S&P) Directorate.

As well as reporting into senior management at the Executive Director level, Highways England has set up a Designated Funds Steering Group (originally established in 2015), now chaired by the Divisional Director, which provides direction on common issues across the funds, including fund strategies and stakeholder engagement. However, the PMO's experience to date suggests that this group requires greater power and/or support from senior leadership to enforce control over the delivery parts of the business and develop good governance.

Box 1: Fund Plans

In response to Highways England's internal audit findings on the completeness of overarching governance, but also to aid the identification and development of schemes which might be suitable for funding through the ring-fenced funds, the PMO team was tasked with updating Highways England's internal fund plans.

Figure 5.2: Fund Plans



The fund plans are key governance documents which should cover the steps illustrated in Figure 5.2 (left).¹¹

The purpose of these documents is to provide an internal manual for governance, project development and evaluation. They are also used to help explain to the supply chain and external organisations how to identify potential schemes, although some of the funds have now produced bid guidance documents for external audiences.¹²

The internal audit also found that the fund plans had not been endorsed by the Designated Funds Steering Group. Highways England told us that they had updated the Fund Plans in response to the internal audit recommendations, but we observed similar issues.

Recommendation 3: Fund Plans

Updating the Fund Plans to reflect the evolving delivery programme is likely to be a time intensive exercise. We recommend that the plans become guidance documents which describe governance and process and which do not need to be updated on a regular basis, except to incorporate lessons from delivery, stakeholder feedback and evaluation.

5.2. Developing the pipeline

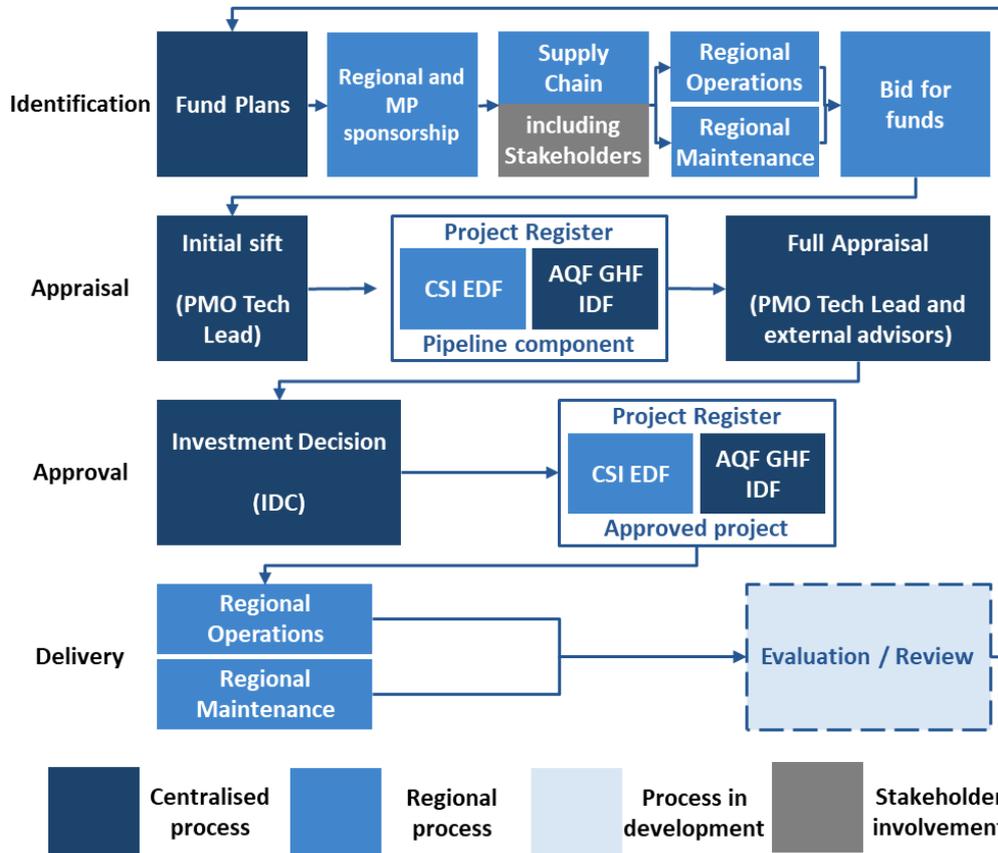
Although the specific process depends to an extent on the fund, this sub-section describes Highways England's high-level approach to developing a pipeline of potential schemes. In most cases, Highways England did not begin RIS1 with a programme of schemes it could immediately deliver, so Highways England has been considering proposals on an ongoing basis and assessing them against the initial sifting criteria for potential projects as set out in the fund plans. Highways England then selects schemes which align with the funds' objectives as they come forward, as long as Highways England is assured that they are value

¹¹ 'Designated Funds Programme: Delivery Framework & Governance', Highways England, February 2016

¹² The GHF and environment funds have both published bid guidance documents. The innovation fund has not produced bid guidance but has published an innovation strategy and there is an existing design manual for pilots and trials. Neither air quality nor the CSI fund have produced detailed bid guidance for stakeholders.

for money, affordable and deliverable during RIS1. Figure 5.3 demonstrates the outline process for scheme selection and where the responsibility for each step lies within the different areas of Highways England’s business.

Figure 5.3: Project life-cycle



Source: CEPA analysis. We note that IDC approval is usually staged (e.g. feasibility, detailed design and construction) and so proposals routinely seek an investment decision more than once before construction.

We reviewed Highways England’s approach to the identification and appraisal of potential projects, and what impact this had on their overall management of the ring-fenced funds. The following sections describe our main findings.

5.3. Project Identification

Responsibility for identifying potential schemes which could be funded through the ring-fenced funds generally lies with Highways England’s delivery arms, including the Major Projects division, the regional area teams and the area Service Providers, working with local stakeholders. The rationale for this approach is that local management should have the best knowledge of potential schemes which might fit with the ring-fenced funds. But Highways England’s performance to date shows that to date the funds have had varying degrees of success in establishing a pipeline of potential schemes, and it is worth reflecting on whether the identification process is working as effectively as it could.

The fund which has been most successful is the Growth and Housing fund. This is due, in part, to having adopted competitive bidding rounds as the mechanism to identify potential schemes. Competitive bidding is a familiar feature of similar funds run by other public-sector organisations, such as the Regional and Local Growth Funds administered by DCLG. As at December 2017, Highways England was reporting that over 100 individual proposals had been received and that 52 individual schemes were in appraisal, approved or in delivery, with a total value of up to £138m. This means the programme is potentially 38% oversubscribed. This level of over-programming provides greater confidence that the company has a plan for delivering the full growth and housing fund commitment, even if some schemes fall away and do not progress to delivery. This approach also means that the fund has had some success in delivering through local authorities and early signs suggest this has been useful in finally generating some momentum (see M5 Tithebarn case study).

Recommendation 4: Delivery through stakeholders

Early signs suggest that the growth and housing fund has had some success with grant-style provision and use of stakeholder supply chains for delivery. Stakeholders report that they are more familiar with grant led processes and many use their own supply chains for delivery. Highways England should explore the possibility applying similar approaches in other funds, such as cycling and integration (which is already seeking to use the Sustrans supply chain), environment and air quality.

Conversely, Highways England has so far been unable to identify a pipeline of schemes to fund through the air quality fund beyond initial pilot studies and the air quality monitoring network. In part there is a technical issue that the fund requires capital schemes but research projects do not deliver an asset in accounting terms so they are ineligible. However the more substantive issue is that the interventions are required to have an appreciable impact on air quality. Other organisations are dealing with similar issues and have sought to justify interventions on wider grounds, as discussed in Box 2 on the following page.

Despite the company's acknowledgement of the difficulty it has spending the air quality fund in an effective fashion, there is currently no plan in place to rectify the situation – given the challenges that it faces the scheme appears to have lost direction and focus. Unless that is recovered quickly, it seems unlikely that it will be able to spend a significant amount of the air quality fund, or have any meaningful impact on air quality, by the end of RIS1.

Recommendations 5 and 6

5. Capital / resource flexibility. Certain ring-fenced funds need a mix of capital and resource funding, notably the innovation and air quality funds which are undertaking both a number of research based pilot studies and are introducing new assets which have ongoing maintenance requirements (e.g. air quality monitoring stations). Highways England should explore with DfT and HMT whether some additional flexibility between

capital and resource is possible going forward.

6. **Air quality.** Highways England should reconsider its current interpretation of the air quality fund criteria as we consider they will only facilitate strong pipeline development if interpreted in their broadest sense. Box 2 provides a case study on TFL's approach to developing air quality led schemes.

Box 2: Tfl illustration for Highways England Air Quality fund

A key criterion for Highways England's Air Quality fund is that the projects which it supports must have a positive impact on air quality. There's clearly logic to that but in practice the fund has found it difficult to identify schemes that meet the criterion. That's because interventions need to be very significant to have an impact (e.g. road charges) and/or are very costly (e.g. vehicle scrappage schemes directed only at air quality).

Having done some research in this area for other clients, we consider that this criterion will only work if it is interpreted in its broadest since and take account of wider benefits, e.g. social and economic benefits. Highways England is not the only organisation struggling with these issues – the Clean Air Zone cities and organisations like TFL are facing similar issues.

By way of example TFL has been consulting on a diesel scrappage scheme for older vans and cars owned by micro-businesses and low-income families respectively. Key details of the schemes are provided below and are supported by a commitment to introduce more charging infrastructure to London.

Figure 5.4: Mayor of London's proposal for a National Vehicle Scrappage Fund

Supporting small businesses charities and schools

New Clean Air Zones will have demanding requirements for small business and charities that own polluting diesel vans and minibuses – particularly as they often do not have upfront capital funding or the necessary revenue for leasing.

This fund would provide a cash payment to small business and charities that choose to scrap an existing van or minibus. Conditions upon payment would need to be flexible to recognise that each organisation has different circumstances and will need to make tailored decisions. Additional support would also be created to enable new opportunities for leasing.

Providing a substitute to low income households

Low income households are less able to upgrade their vehicles and will not necessarily consider alternatives and/or other modes of transport. The scheme includes a fund to support people on low income by enabling a new model of car ownership using incentives for car clubs, cycling and public transport

Scrapping the oldest polluting taxis

Historically, the taxi trade has had a limited choice of heavy diesel vehicles to use that meet customer expectations and deliver 100% wheelchair accessibility. This has led to purpose built taxis being a significant contributor to poor air quality, particularly in dense urban environments such as city centres.

London has an aim to remove the oldest polluting taxis as soon as possible to support the uptake of much cleaner 'zero emission capable' taxis. This fund would complement existing incentives put forward by local authorities and enable taxi drivers to scrap their vehicles entirely.

Source: TfL

The rationale of the scheme, which does not have a fully developed business case as yet, is that for micro-businesses it mitigates the effect of additional road charges and helps drivers that otherwise could not afford a newer cleaner vehicle to acquire one. For low-income families it moves them

away from reliance on a vehicle that is taking up a disproportionate amount of their income. Additionally, the schemes would play an important role in increasing take up of newer greener vehicles.

TFL already has an operational decommissioning scheme for black taxis aimed at moving the fleet to electric vehicles so the implementation issues (e.g. state aid) and other practicalities have been more fully considered. Further details can be found at: <https://tfl.gov.uk/info-for/media/press-releases/2017/july/mayor-s-new-42-million-fund-to-help-cabbies-ditch-the-dirtiest-diesel-taxis>

Although the Innovation, Cycling, Safety and Integration (CSI) and Environment funds have established pipelines which Highways England considers to be over-programmed, we consider that the project identification process could be further improved. Highways England is well-placed to identify schemes in some areas, for example the noise sub-fund looks as though it will be fully allocated across the period. But it is less clear that the company and its supply chain has the necessary expertise required to identify potential schemes which are relevant to all aspects of the Environment, Integration and Innovation funds.

We think that external stakeholders could play a more prominent role in the identification of potential schemes, especially in cases where Highways England lacks internal expertise or has a shortage of available resource. We found shortcomings in its engagement with stakeholders, which has impacted on the ability of external groups to contribute to this process. Stakeholders told us that they often had difficulty understanding what Highways England's vision of a good scheme was, which suggests that its selection criteria can be imprecise or subjective, particularly where funding is not linked to clear KPIs. As Highways England engages with stakeholders on the performance specification for RIS2, it should consider how these might align with any future ring-fenced funding. Stakeholder feedback on Highways England's overall management of the funds is discussed in detail in section 4.

Recommendation 7: Performance indicators

Highways England has perhaps found it more straightforward to identify projects and delivery has more momentum where it is linked to a KPI in the performance specification (for example, Noise Important Areas and KSI casualties). We consider that there may be value in more closely aligning any ring-fenced funds in RIS2 to specific performance targets. Highways England should consider this with DFT

From our stakeholder engagement and wider discussions we are also aware that Highways England's regional teams and area Service Providers have shown mixed interest in supporting the ring-fenced funds. As a result, the PMO and Technical Specialists have been drawn into the process of engaging with stakeholders and developing proposals (for example the A1 Catterick Flood Storage Reservoir). This has been a source of frustration for external stakeholders and is a problem acknowledged by the central PMO team, but Highways England does not appear to have a plan to improve communication between its regional teams and external stakeholders.

Recommendation 8: Resources

Additional management resources have been provided centrally and are delivering improvements but the central PMO team is dependent upon the regions for pipeline development, project management and delivery. We note a number of issues in the review e.g. inconsistent stakeholder engagement and poor performance data quality (see sections 4 and 6.4), that imply that the lack of focus on ring fenced funds identified in Highways England's own audit may still exist in the regions (though we have not discussed this with them). Highways England should reflect upon the adequacy of regional resources and the clarity of leadership and communication from the centre.

Highways England told us that its Major Projects division had been slow to engage with the programme and to identify potential projects. This was also evidenced by the internal audit team's additional findings when it revisited the programme in November 2017.

Highways England acknowledged that this represents a missed opportunity and has already taken steps to ensure that Major Projects are more engaged in the process. The Executive Director for Major Projects sits on the Designated Funds IDC and there are senior managers representing Major Projects on the Designated Funds Steering Group. Additionally, the PMO is now working closely with Major Projects to identify known opportunities within and close to major schemes that are being undertaken during the ring-fenced funds programme.

However, if these actions are to successfully mitigate some of the risk around the back-end loading of delivery, it is likely to require senior leadership and clear communication from the centre (see also recommendations 2 and 18).

Recommendation 9: Major Projects

Latterly, Highways England has made progress with the Major Projects directorate and has secured its engagement in the Designated Funds IDC and the Steering Group. However, as the division responsible for the delivery of major capital schemes, it is important that going forward Major Projects is fully engaged in the process of identifying potential schemes and give appropriate priority to the delivery ring-fenced funds projects.

5.4. Project Appraisal

Once a project has been proposed to Highways England, it is sifted against initial criteria to decide whether it is worth dedicating company resource to a detailed assessment of cost, deliverability and value for money – see box 3 (below). The sifting criteria differ by fund and should be set out in the Fund Plans, but the evidence collected through the case studies and stakeholder responses suggest that the sifting process is not always straightforward for three reasons:

- Some criteria are more open to interpretation, leading to uncertainty about whether they will be well received by Highways England – for example, whether projects

should be within a set distance from the SRN (e.g. Wellington Monument and Chat Moss Wetlands proposals were highlighted in this respect). See recommendation 1b.

- Sifting criteria can be quite strict and the risk is that this slows down the process. This might mean that Highways England is losing some potentially good value for money projects and the residual projects offer less good value for money (e.g. Wyvern Junction).
- Some schemes could qualify for more than one fund (e.g. Haldon Hill) but Highways England's current systems do not support multiple fund contributions to an individual project.

Recommendation 10: Financial flexibility

In addition to flexibility between capital and resource (see recommendation 5) Highways England needs to introduce the flexibility to deliver schemes using contributions from multiple funds. This means that Highways England may require some ability to move the allocation of funds around (i.e. an increase in one fund would be offset by a decrease in another), but it also needs to establish adequate controls to ensure this flexibility is used appropriately.

Once a proposed scheme passes the initial sifting exercise, it enters a pipeline of potential future schemes in Highways England's "fund registers" (see section 6.1). At this stage Highways England undertakes a sequential process of assessing feasibility, detailed design work and a project appraisal (spanning cost, deliverability and value for money), culminating in the development of a business case and Scheme Appraisal Report (SAR). At the time of writing our review, a significant portion of the ring-fenced programme has not yet started construction and remains in the appraisal phase.

The appraisal stage is largely controlled by Highways England and the Technical Specialists within the PMO team, with the assistance of external advisors. Before Highways England submits a scheme for approval by the IDC, it usually carries out an internal Value Management workshop which attempts to identify whether the business case for the project could be improved by realising additional benefits and scrutinising the cost estimate. Scheme appraisal is further described in Box 3.

In part because of the large number of schemes in the ring-fenced funds Highways England attempts to quantify the costs and benefits but sometimes has to rely on a qualitative assessment. In the case studies we see different benefits being assessed at an early stage than in the final SAR which may not be an issue, but in the documentation that we have the rationale for this is not always clear.

Recommendations 11 and 12

11. Business case methodology. Highways England should ensure that its business cases are consistent across schemes and, wherever possible, funds. In some of the early projects we observed differences in the business cases of smaller schemes (particularly in innovation and air quality).

12. Wider benefits. Highways England should pay special attention to cases that rest on wider or difficult to quantify benefits, but should not shy away from them. There is wide support for these types of projects amongst stakeholders. However, these projects require careful monitoring to ensure that VFM is maintained – slippage and cost increases should be carefully monitored.

Box 3: Scheme Appraisal

The purpose of ring-fenced funds is to provide funding for schemes with specific benefits, which might be unfunded in a broader competition for funding in the main RIS (which is typically focused on transport benefits). Nevertheless, schemes funded in this way are still required to show value for money, by way of a WebTAG-standard cost benefit analysis (CBA), as used for all Highways England's schemes. The benefit-cost ratio (BCR) produced is an important decision criterion. However, a BCR can only account for factors monetizable on an acceptable basis. Some schemes may have benefits (or costs) important for their appraisal that cannot be easily monetised.

In general a minimum target level for the BCR would be set, but in practice this varies by fund. For the GHF fund, with a good pipeline of potential schemes, a minimum BCR of 2 (rated "Good" value for money) is set. A scheme rated as "Poor" (BCR<1) would usually not proceed, though exceptions might be made for schemes with large non-monetisable benefits. The DfT usually sets a minimum standard of BCR>1.5 ("Medium"), because of uncertainties in the calculation. Anything with a BCR<1 ("Poor") usually requires a direction from HMG ministers and approval from HM Treasury.

The appraisal of ring-fenced fund schemes differs from the RIS in so far as:

- HE carries out an initial sift to ensure that the schemes satisfy the fund's criteria; and
- care is taken, where possible, to value the non-transport benefits of the scheme – this would not be a major concern with general schemes where the main aim is transport benefits.

For example, a cycling scheme is likely mainly to deliver health benefits. Thus, although cycling schemes may have very high value for money represented as a BCR, these benefits are principally health benefits rather than transport benefits. Such schemes would not generally be considered for admittance to the general RIS, because Highways England would not typically look for schemes with few transport benefits. Thus some schemes accepted for designated funding in practice have "Very Good" value for money (BCR>4), indeed in some cases higher than most schemes in the RIS (e.g. Lincolnshire Lakes). At the same time some schemes accepted for designated funding have cost-benefit ratios close to the minimum level for acceptance (e.g. Wyvern Junction). This may be because of a shortage of good schemes that pass the initial sift. This may be because the initial sift is

too strict, or else because there is a blockage in identifying potentially good schemes.

There is also an issue that a monetary quantification is not always possible for important benefits of the schemes (such as improved biodiversity or human well-being).¹³ Without such a quantification it is difficult to understand when a scheme offers sufficient value for money to be admitted for funding. This may be an impediment for environmental and innovation projects in particular.

In the case of the GHF, relevant non-transport benefits fall into WebTAG's "wider economic benefits" category.¹⁴ Estimation of such benefits often requires what WebTAG terms "supplementary economic modelling" based on GDP effects, rather than the preferred and more reliable welfare impacts of transport improvements. In such cases there is a risk that user benefits might be double counted, because such GDP benefits often derive from user benefits. Displacement, i.e. attracting activity from other locations, is also a likely outcome, although Highways England advise us that standard parameters for displacement at a regional level are used.¹⁵

Since some scheme economic benefits of the type in GHF schemes often result in land value increases, in principle many of the benefits of such schemes might be capable of being earned by a developer or land-owner, enabling them to fund the scheme in whole or part. The appraisal of GHF schemes needs to be alert to the distinction between benefits capable of earned by the developer/land-owner, and those that benefit the wider community, in deciding whether to fund a scheme.

What is clear is that Highways England does not have an overall and consistent view across the portfolio of the benefits that it provides. Based on our work to date it seems that:

- Growth and housing generally provides very good value for money although strict criteria remove a large number of schemes put forward in each wave resulting in some schemes being funded with BCRs which only just make it over the "good" value for money threshold. These require oversight that the scheme structure may not facilitate.
- Innovation projects are difficult to assess quantitatively.
- Environment schemes often rely to a greater extent on a qualitative assessment but Highways England has developed a standardised template to ensure consistency and these are closely reviewed by technical specialists.
- Cycling, safety and integration schemes are often part of wider packages which makes it more challenging to assess the value for money of individual interventions.
- The schemes that we have seen so far from the air quality fund do not have good business cases.

¹³ Although transport appraisal has gradually expanded over time to attach values to a broader range of impacts, some such impacts remain beyond the capability of the current framework due to a lack of underpinning evidence and the difficulty in predicting changes in behaviour.

¹⁴ Extensive additional WebTAG guidance in this area is due to come into force from May 2018 and was published in December 2017.

¹⁵ Even then, displacement factors should be informed by context-specific information and evaluation evidence.

Recommendation 13: Initial sift criteria

Some of the projects funded via the Growth and Housing Fund only just demonstrate good value for money. These projects are likely to require additional oversight to provide assurance that they meet the scheme criteria. To address this, we would recommend that potential Growth and Housing projects should have to demonstrate “very good” value for money at the initial sift stage, even if this would lead to another call for projects

5.5. Project prioritisation

As Highways England started RIS1 without a portfolio of projects for the ring-fenced funds and have had difficulty developing the pipeline over the past three years, they have not had to prioritise projects on value for money grounds. Instead, projects which meet the necessary criteria and pass the appraisal process are approved as they come forward. But as the funds have become more embedded in the business, demand has started to grow and Highways England has been able to identify a range of possible schemes. Our review found in funds such as Growth and Housing and the noise sub-area of Environment, the PMO has identified that they are likely to spend their full allocation during RIS1. We are concerned that slow progress in the early years of RIS1 has created a pressure to deliver outputs as quickly as possible, and that Highways England may not be considering potential schemes in the round and prioritising those which offer best value for money. There is a risk that some schemes have been approved that would not otherwise have been funded. Highways England acknowledges it needs to think about prioritisation of projects for RIS2 but we consider that there may be scope to do so sooner.

Recommendation 14: Prioritisation

Not all the funds are currently prioritising which projects should proceed within finite budget allocations. As funds availability diminishes, fund managers need prioritisation tools. Mandating the production of business cases is a good starting point, but in some of the funds Highways England may want to consider calls for proposals in waves. This could help to replicate the interest among external stakeholders demonstrated in the growth and housing fund, and allow Highways England to consider in the round which schemes it should prioritise for funding

6. PROGRAMME GOVERNANCE, INVESTMENT CONTROLS AND RISK

Once the project is in progress, it is usually assigned to a project manager to see it through to delivery and evaluation. The project manager should submit regular updates on progress to the PMO and manage the relationship with any interested stakeholders. In cases where the project is of special interest (such as Haldon Hill), Highways England sets up a project steering group with representation from the PMO to provide oversight and communicate progress back to senior management.

In this section we consider how projects are managed and controlled by the PMO and review the high level oversight and direction of the programme undertaken by the IDC. We specifically consider:

- The use and status of project registers
- Routine performance monitoring;
- Risk management
- The role of the Investment Decision Committee (DF IDC)
- Investment control; and
- HE's overall governance of the ring-fenced funds programme.

6.1. Project registers

Once in the pipeline of potential future schemes, a proposed scheme enters the project register for the relevant fund. These registers are currently designed as spreadsheet documents which list the current and potential projects by fund. They provide a snapshot overview of Highways England's progress in delivery at a macro level, providing some detail on status and the expenditure of schemes.

Despite being key control documents for the PMO, the quality of the data and accuracy of reporting is varied. The robustness of the registers is causing an ongoing risk of delivery falling below baseline. Projects frequently drop in and out of the registers, and therefore any conclusions drawn from them may not be stable. It is not clear how up to date the registers are and in some cases, they are difficult to reconcile with our understanding of a fund's current programme based on discussions with relevant team members.

Our findings are consistent with the findings of internal audit. The PMO was tasked with reviewing and assuring systemised data as insufficient analysis hinders effective management decisions. However, when this action was revisited, both the CSI and Innovation registers for example were not being maintained by delivery teams.

Recommendation 15: Project Registers

Greater attention should be paid to maintaining up to date and accurate information on project progress. In addition to the information currently collected, the PMO should capture information on the BCR of projects and highlight those which require careful monitoring for VFM or other reasons.

Funds with fewer projects are more straightforward for the PMO to oversee, but where there are a high number of projects, updating the registers becomes more difficult. This is a particular issue with the CSI and Environment funds. The latter for example has well over 1,000 projects across the regions. Taking the roughly 150 projects in the Environment pipeline for the Northeast & Yorkshire region only, the average level of funding given is around £260,000 and it is not uncommon to find projects as small as a few thousand pounds. This is in contrast to the less than 50 schemes in the GHF pipeline nationally, which have an average Highways England contribution of £3.5m. Having many small projects spread across the regions makes the quality of reporting by local delivery teams critical for the PMO to be able to manage and monitor effectively.

Recommendation 16: Scheme grouping

In order to better manage the reporting requirements of those funds with a proliferation of small schemes, we suggest that Highways England bundles these into related groups; this is something that the PMO is considering. Projects could be grouped nationally or by region depending on the projects themselves. A single project manager should then be assigned accountability for reporting and delivery of each bundle.

Despite the mixed quality of data from the project registers, a common theme that emerges (supporting our findings elsewhere) is delay and the now substantial back-end loading of many funds. Expenditure remains below target for 2017/18 and there are relatively few completed projects across the funds. For instance:

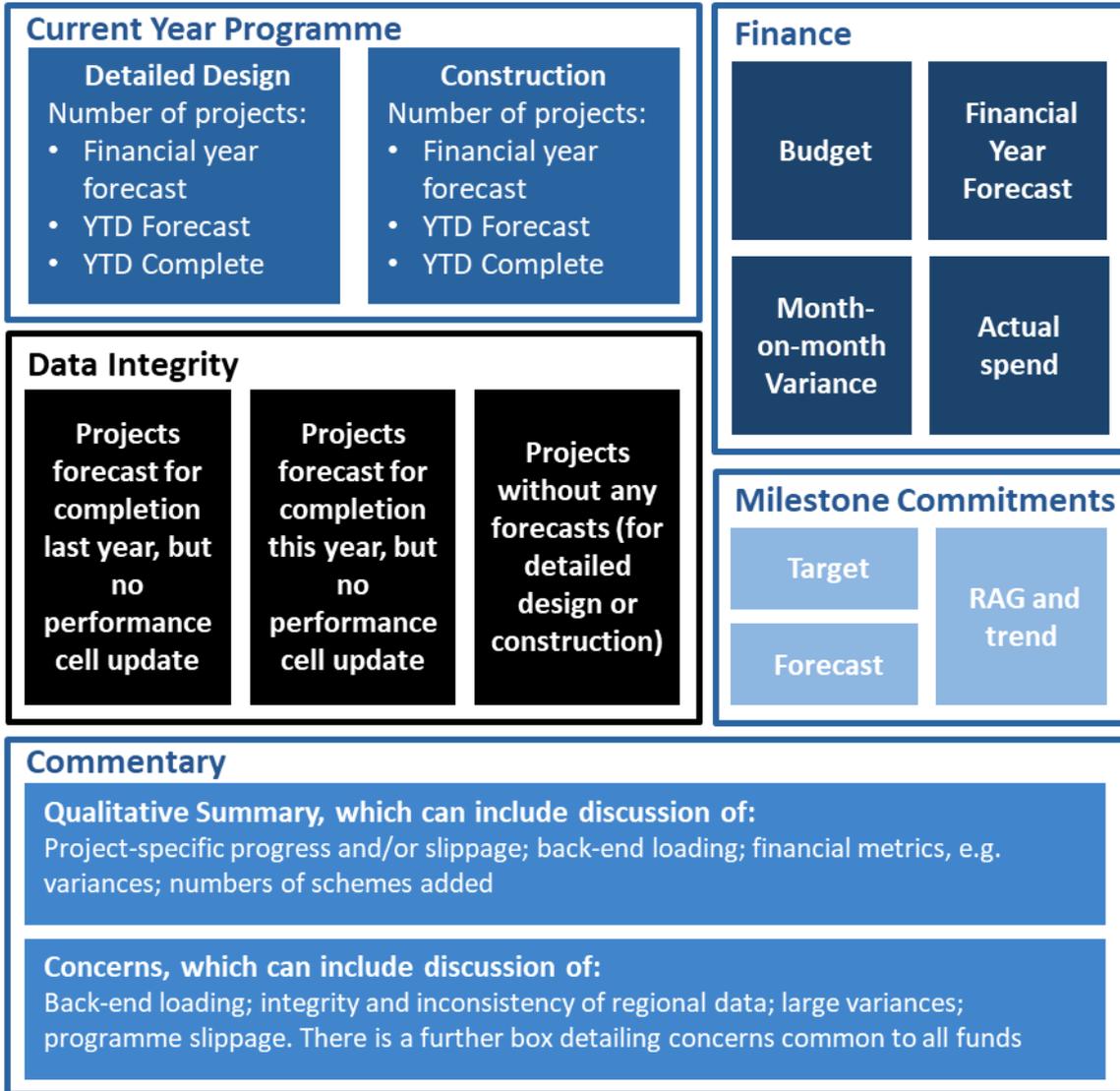
- GHF sees a further big step up in expenditure in 2018/19 but it will not deliver its forecast for 2017/18.
- The Innovation register suggests many projects have been added relatively recently, with a significant acceleration in the 2017/18 financial year. It is not however clear to us that these expenditure increases are underpinned by robust delivery plans.
- The air quality fund currently faces a substantial underspend, with Highways England struggling to find appropriate projects. A small number of early research projects are in delivery at this stage and a large future increase in spending is predicated on several successfully leading to wide scale roll out of technologies. It is not clear to us that this will be the case.

- Capacity issues are affecting the delivery of noise barrier schemes. Highways England expects five of eight schemes planned for this year to be fully delivered.

Overall it is not clear to us that the funds have sufficient momentum or that Highways England more widely has the capacity or commitment to fully deliver the programmes of work that the PMO is developing.

6.2. Routine performance monitoring

Figure 6.1: Programme cell contents



Once the IDC approves funding for delivery or construction, responsibility for implementation passes to the Major Projects or Operations Directorate, depending on the scheme, and are generally procured through the Area Support Contracts (although this does differ by scheme). The PMO continues to play a role in monitoring programme and financial performance data. Highways England’s main tool for monitoring cost performance is the ‘Performance Cell’ which is updated every month. The contents of the Performance Cell are shown in Figure 6.1 above.

6.3. The performance cell for October 2017

As a snapshot we were provided with the performance cell for October 2017 (which is replicated in the tables below). This indicates that roundly £168m is to be spent in the year 2017/18. As at October 2017 the full-year forecast showed that Highways England would spend £117.7m (70%) and actual expenditure year-to-date was just £42.7m (25%) suggesting that a potentially significant amount of expenditure will slip into the next financial year. The October full year forecasts for 2017/18 serve to illustrate the point that we have made throughout the report that delivery momentum is insufficient to meet forecasts.

Table 6.1 and Note: all figures rounded to the nearest £1,000

Table 6.2 show Highways England's financial performance and construction programme status as at October 2017.

Table 6.1: Overall finance position as at October 2017

	Budget	October FYF	Change MoM	Actual YTD
Air quality	£10,000,000	£461,000	+£144,000	£203,000
CSI	£49,200,000	£36,227,000	+£1,407,000	£13,240,000
Environment	£56,600,000	£38,668,000	-£1,542,000	£13,234,000
Innovation	£29,100,000	£25,924,000	+£1,765,000	£10,635,000
Growth & housing	£23,000,000	£16,449,000	+£1,393,000	£5,424,000
Total	£167,900,000	£117,729,000	+£3,168,000	£42,737,000

Note: all figures rounded to the nearest £1,000

Table 6.2: 2017/18 construction programme (number of projects complete)

	Full-Year Forecast	YTD Forecast	YTD Complete
Air quality	11 (12)	1	0
CSI	111 (107)	40 (38)	31 (27)
Environment	121 (115)	40 (24)	20 (17)
Innovation	5	1	1
Growth & housing	N/A	N/A	N/A
Total	248 (239)	82 (64)	52 (45)

Source: Highways England October 2017 Performance Cell. Note that numbers in brackets represent the previous month's data if different.

These figures raise cause for concern about the future. The funds expect to deliver more and therefore spend more next year but based on the evidence that we have seen in the course of this review we doubt Highways England's capacity and commitment to make good on that intention without greater management focus and potentially additional resource.

6.4. The quality of performance reporting

We also note that performance data quality is not good. In Highways England October performance cell report the following were identified as data errors “common to all the funds”:

- Large discrepancies between the money allocated to this year’s programme and the budgets entered on Highways England’s finance management system;
- Discrepancies in the finance management system had reduced forecast spend this financial year, even though the overall programme budget had been increased;
- The finance management system displays only a small proportion of the programme (c25%) reaching detailed design and construction milestones this financial year. The performance cell suggests that it is unclear whether or not this provides any indication that the programme might slip further;
- A number of schemes have multiple project identification numbers as they have changed service provider.

The Performance Cell should allow Highways England to track the financial performance of each fund at the regional level, so that they can identify emerging under/overspends across each regional portfolio. It is based on data inputs drawn from Highways England’s finance management system. But the Performance Cell reveals that there are wider problems with Highways England’s reported data:

- There are large (sometimes negative) variances in Highways England’s full-year forecasts from month-to-month. This suggests that the forecasts are relatively unstable, either because projects come into/out of the delivery plan on a regular basis, or project managers input data incorrectly and have to revise it later. Negative variances suggest that the programme is slipping.
- Detailed investigation suggests that a number of schemes are forecast to complete in March 2018. The CSI and environment funds also have a large (and increasing) number of schemes without forecast dates for detailed design and construction. The delivery plan is therefore less firm than the over-programming of the funds would suggest.

This is not the fault of the PMO as it seems the current reporting system makes management of the funds an onerous, labour intensive process. However, it does make accurate cost reporting difficult and Highways England are unable to report what percentage of schemes are being delivered under or over budget

HE also acknowledges that that its data on delivery progress and financial expenditure are generated separately and can become out of step. It is therefore difficult for it to determine what the overall financial and delivery position is, and to understand why it is forecasting such significant underspends. To a large extent this is because the PMO is reliant on project

managers in regional teams to deliver performance information and keep project registers up-to-date, but it is clear that these are not local priorities.

At this stage in the RIS period Highways England does not have reliable data with which to monitor and control the portfolio of ring fenced fund projects. Reporting in Highways England's systems is inconsistent and the PMO team are questioning the quality of data but are unlikely to have control over it. That control will likely require more senior level intervention to require compliance with requests for data provision.

We believe that the PMO is aiming to put in place system which would deliver consistent reports as per Figure 6.2 below. This would be a major step forward from the current position. However there is scope for further development thereafter, as per Figure 6.3, which would allow the PMO and senior management to track progress more clearly against the overall allocation of funding and identify issues within individual funds that require attention:

Figure 6.2: Typical capex management process for a large infrastructure company

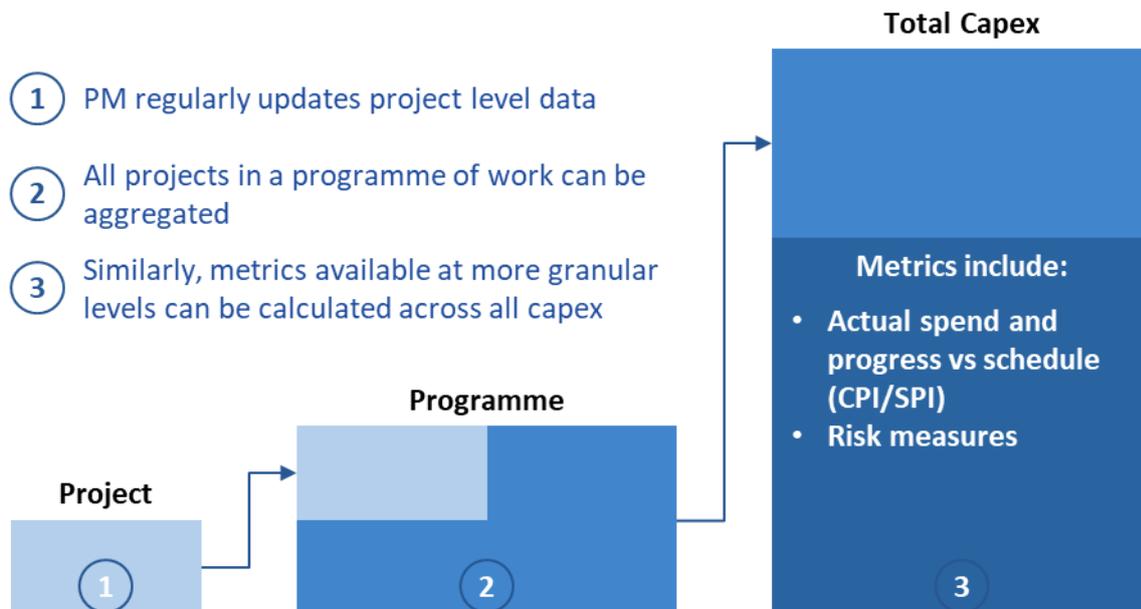
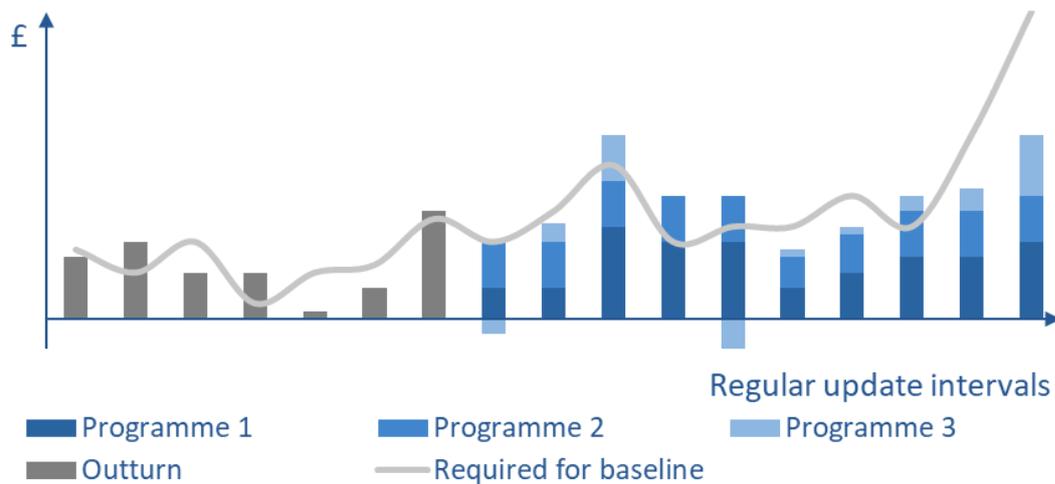


Figure 6.3: Typical management dashboard for a large infrastructure company



In Figure 6.3 outturn and forecast expenditure by programme (in this case fund) would be reported periodically in the bar chart graph. The line graph shows how that relates to overall fund allocation, the large kick up at the end suggesting that expenditure will need to increase materially if the overall fund is to be disbursed in the agreed time period (in this case this would mean that project registers do not yet have sufficient projects to deliver the full allocation to that fund). We believe that Highways England has the building blocks to develop such an approach but the first stage is to ensure that data reporting is accurate.

Recommendation 17: Deliver consistent data collection and accurate reporting

Consistent and accurate project reporting should be a priority for the PMO. Systems and processes that provide accurate consistent and current information need to be developed and embedded across the business. Achieving this will likely require senior management support i.e. to mandate consistent and timely reporting through all relevant systems by project managers and to ensure that systems have like data/timing requirements to limit the scope for inconsistency.

NOTE: The recommendation should be read alongside recommendation 8 which suggests that additional resources may be required in the regions.

6.5. Risk management

While it is clear that project managers and the PMO understand at least some of the risks associated with the projects and/or programmes of projects that they are managing, reporting of risk appears to us to be weak.

We are advised that all projects have a risk register, however, some, but not all, of the case study projects that we have reviewed have included a risk register in the documentation pack provided to us (although one was requested). There does not appear to be an overarching risk register for each of the funds or for the project portfolio as a whole (the PMO shared its risk register with us but that relates to project management risk rather than

the projects themselves). As such it is currently impossible to gauge project risk at anything other than project level. Given the number of projects and the local management of them gaining an oversight at this level is impractical.

In order to effectively control risk at programme (fund) and portfolio (all funds) level there need to be project risk registers in place which roll up into programme level registers and provide insight into the risk exposure of the individual programmes and the portfolio. These registers would provide the PMO and senior management with a better understanding of key risks and facilitate a more effective management response to those risks. They are also important in funding risk. What we would expect is for projects to be priced at around P50 (most likely outturn costs) with some risk funding held within the project and further contingency held at programme or portfolio level. These centralised funds would tend to cover lower probability but higher impact risks that are unlikely to all occur. This means that the risk fund can be calculated on a sophisticated basis e.g. using Monte Carlo modelling.

Even at project level we note that in discussions project managers and / or the PMO staff have told us that prices are not always inclusive of risk. For noise we note that the projects in the register may be undeliverable for the funds available if issues such as unknown ground conditions or scale of cost for insulation continue to affect forecast prices. In environment, for Haldon Hill we queried why larger risk allowances consistent with HMT guidance were not included in this pilot project. We were advised that the project manager added the current risk amount as previously no funds were reserved for this.

We consider that adequate control of the portfolio of ring fenced fund projects cannot be delivered without a better understanding of risk. It should therefore be a priority to ensure that a system of risk management is put in place across all projects that facilitates the generation of fund and portfolio level view of risk.

Recommendations 18 and 19:

18. Risk and optimism bias. Highways England needs to actively consider risk and all project cost assessments should include an appropriate allowance for risk and optimism bias. Highways England's approach should be compliant with HM Treasury's Green Book and DFT's WebTAG guidance, but they should also draw upon their own evidence base where appropriate.

19. Risk management. Appropriate risk management needs to be put in place at the level of each individual fund and the overall portfolio, starting with regularly updated risk registers. This will help the PMO and the funds' executive oversight to take proactive action to reduce the likelihood of programme delays and over/underspends.

6.6. The role of the Investment Decision Committee

Highways England seeks financial approval for ring-fenced schemes through the Designated Funds Investment Decision Committee (DF IDC). However, the Strategy & Planning IDC oversees Growth and Housing – largely because of the pre-existing Highways England team and responsibility structures.

Established in July 2017 and modelled on the investment controls which apply to Highways England's Major Projects and Operations schemes, the DF IDC has delegated decision-making authority from Highways England's Executive Committee and reports back to the Executive with recommendations on any area where action is necessary to ensure effective decision-making.

The IDC is comprised of senior staff including Highways England's Chief Engineer and the Executive Directors of Major Projects and Operations. The committee meets on a biweekly basis to make the decisions on whether proposed projects proceed (i.e. is funded) based on a completed business case and accompanying papers by the project team.

Highways England advises that the IDC provides robust challenge and requests changes to proposals before it grants approval. However, we have seen evidence in our case studies of projects being approved despite significant cost increases (for example, the Connected Intelligent Transport Environment case study) or where value for money is difficult to justify on any quantified grounds (for example, the National Air Quality Monitoring Network). In such cases we anticipate that Highways England will be keen to document the rationale for the DF IDC's decisions so it is clear that they have sought assurance on, for example, risks to deliverability, uncertain benefits or cost estimates, and to demonstrate there is strong justification for approving the scheme.

Highways England considers much of the IDC's work to be commercially sensitive but it shared two papers with us from a recent meeting, along with the record of the discussion which took place. The papers covered one innovation proposal and one environmental proposal, both seeking approval for funding. According to the meeting record, the IDC deferred a decision on the innovation project. Although members were supportive of the concept, they felt the proposal needed to be better defined with clear delivery targets. The project team was requested to re-submit a fully scoped and costed proposal. The IDC were also supportive of environment project but had concerns about the proposed delivery method and management structure. The project was approved, subject to reaching an agreement on delivery responsibilities and completion of an execution plan.

Based on the limited evidence shared with us, the IDC appears to ensure that projects adhere to basic processes (e.g. submission of relevant assessment forms and business cases) and does not approve projects where these are lacking.

6.7. Investment control

We understand that decisions by the DF IDC to approve or recommend investments are based on the following factors:

Figure 6.4: IDC decision factors

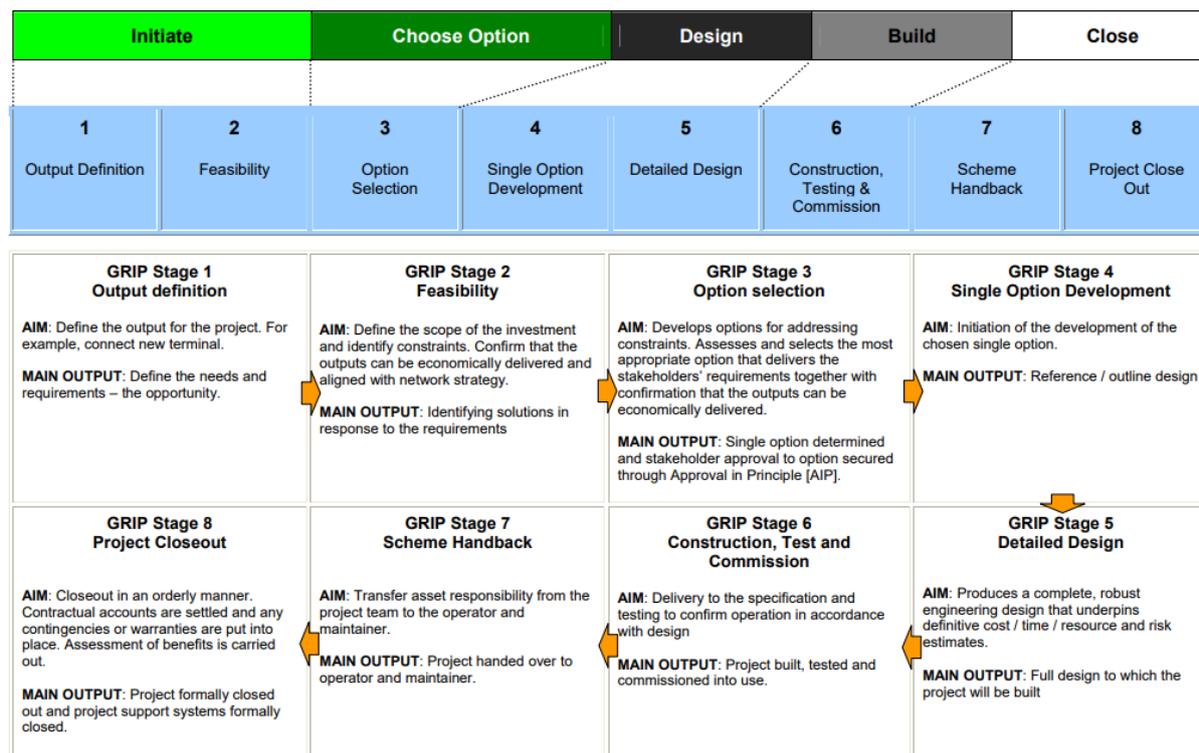


Funding is usually sought for three phases: feasibility, detailed design and construction. As a result, the IDC has the opportunity to comment on proposed schemes as they develop and not just at the final investment decision.

Elsewhere gateways processes such as this tend to involve a greater number of stages perhaps reflecting the greater scale of the programme, and so not necessarily required here. By way of illustration the Network Rail GRIP process is set out in Figure 6.5 below.

It is noteworthy that the IDC does not yet appear to be involved in handback and closeout processes which elsewhere would be used to assess the immediate success or otherwise of a project and what can be learnt from it. Evaluation processes for the ring-fenced funds are currently acknowledged to be embryonic, though at least on Highways England's radar, as discussed in section 7.2. We suggest that there should be a committee with executive level leadership to support both the development of these processes and become involved in reviewing findings in order to ensure that good practice is disseminated across the funds and that any recurrent issues and problems are centrally addressed at a senior level.

Figure 6.5: Network Rail Guide to Rail Investment Process (GRIP) stages



Source: Network Rail

More generally although the IDC's remit extends to ensuring **'effective oversight and challenge of investment opportunities, risks and changes, including the application and approval of portfolio contingency for planned overspend'** Highways England did not provide us with evidence that the IDC is considering or driving forward solutions to the wider problems with the ring-fenced funds that we have identified, such as a lack of momentum during the first half of the RIS period, a lack of clarity around the purpose of the funds in areas where desirable outcomes are proving difficult to define, and poor quality of reporting from the delivery parts of the business. We have not seen evidence of the IDC or other senior level bodies taking programme wide monitoring and control decisions. We note, however, that Highways England has commissioned the internal audit team to consider governance of the funds and has since strengthened the management team.

We have highlighted a number of significant issues arising from our review throughout this report that we consider Highways England should now address. Many of them are consistent with its own internal audit findings. We would expect a senior level body, most likely the IDC given its remit or perhaps the Designated Funds Steering Group, to maintain an oversight of the funds and overall accountability for delivery of their objectives in addition to approving (or not) expenditure.

6.8. Governance

There are a range of published guidance documents setting out principles for good governance. While there is no one clear standard to apply, the principles tend to include:

- Clarity of vision and purpose;
- Effective control;
- Transparency; and
- Accountability

Some funds perform better than others in relation to aspects of good governance but overall our conclusion is that Highways England's management of the ring-fenced funds does not yet meet good practice in any of these areas.

We note in section 4 that there is a lack of clarity amongst key stakeholders about what Highways England requires ring fenced funds projects to achieve and concern about the progress of projects that have been put forward for inclusion within the funds. As indicated in the sub-sections above, control processes are not yet effective and it is not clear that Highways England has an executive level body that is taking accountability for ensuring that the funds meet their objectives.

Overall, we consider that there remains insufficient commitment to delivery of the ring-fenced funds. In support of this we would point to:

- slow initial mobilisation;
- the current poor quality of information surrounding the funds - driven in part by inconsistent data provision from project managers in the regions;
- an ongoing lack of delivery momentum across the of the majority of the funds; and
- opaque processes for stakeholder engagement despite Highways England being more than half way through the RIS period.

We understand that additional resource, including senior management resource, has been provided following Highways England's own audit of the funds, but the PMO team will require both significant executive level support and a greater level of commitment from the delivery parts of the business in order to ensure that fund objectives are met.

The funds represent a significant opportunity to mitigate the detrimental impacts of the SRN on its surroundings and its neighbours and at this point there is a significant risk that the potential this offers will not be fully realised.

Recommendation 20: Role of the Executive

Success of the ring fenced funds programme depends on all areas of the business. In our view there should be a business wide committee with executive level leadership and a remit to consider the issues that have been identified in this review which are impeding progress of the funds. This committee should be accountable for the resolution of those issues via recourse to the executive team where appropriate.

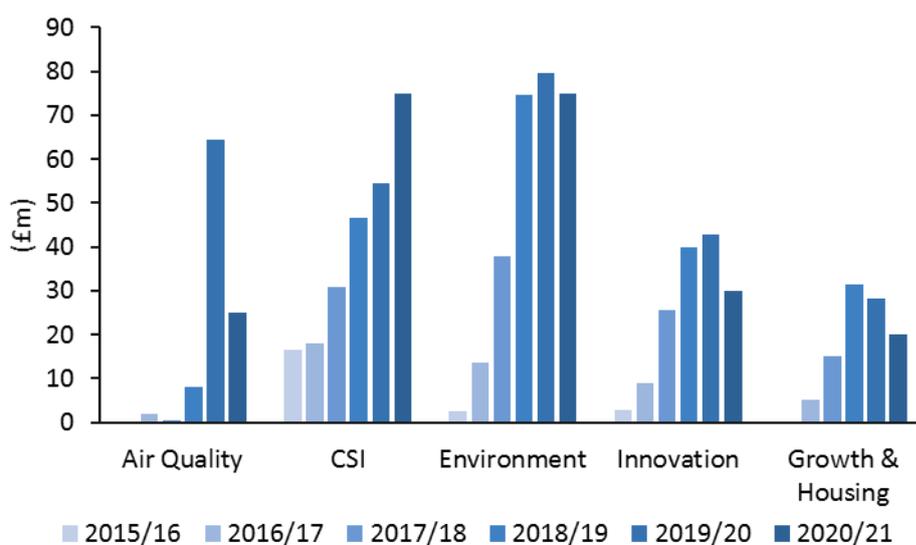
7. DELIVERY AND REALISATION OF BENEFITS

This section considers Highways England’s performance with respect to the delivery of outputs from the ring-fenced funds, costs, and its approach to the evaluation of completed schemes.

7.1. Outputs

As discussed in section 6, Highways England has so far fully delivered relatively few projects across the portfolio. In its annual assessment of Highways England’s performance in 2016/17, ORR noted that Highways England delivered a total of 77 projects through the ring-fenced funds. More are in delivery this financial year, but Highways England’s financial reporting data suggests that it may have difficulty completing all of the projects which are planned by April 2018. Based on the documents provided to us dated December 2017, we estimate that Highways England has delivered around 120 projects so far during RIS1 accounting for around 13% of the ring-fenced funding.

Figure 7.1: Actual and forecast annual expenditure by fund, 2015/16 to 2020/21 (£m)



		Air Quality	CSI	Environment	Innovation	Growth & Housing
Actual	2015/16	0.0	16.5	2.6	2.7	0.1
	2016/17	2.0	18.1	13.7	8.8	5.2
Forecast	2017/18	0.6	30.7	37.8	25.7	15.0
Planned	2018/19	8.1	46.5	74.6	40.0	31.5
	2019/20	64.3	54.4	79.5	42.8	28.2
	2020/21	25.0	75.0	75.0	30.0	20.0

Source: Highways England’s Forward Plan

Highways England's Forward Plan indicates that expenditure is forecast to step up significantly in 2018/19 (total £200.7m) and that the programme is heavily back-ended in the final two years of RIS1. Despite Highways England's expectation that the Growth and Housing, Environment and CSI funds will be over-programmed, it is not clear whether this level of expenditure is achievable. Given pressures on the supply chain and other challenges there is a significant risk that Highways England will not be able to spend the ring-fenced funding in RIS1 and that similar issues may carry over into RIS2. It appears particularly unlikely that Highways England will be able to spend the budgeted £8m and £64m on air quality in 2018/19 and 2019/20 respectively, and it is still firming up its delivery plan for the innovation fund, where it must overcome an issue with the intellectual property clause in its standard procurement contracts which is holding up progress on a handful of early proposals. Overall our view is that Highways England's forward financial plan is not yet supported in all areas by a robust delivery plan. In some funds – Air quality and perhaps Integration (within CSI) contingency planning for underspending in RIS1 should perhaps already be underway.

7.2. Evaluation and realisation of benefits

Once a project is complete Highways England should go through a series of close out procedures that consider whether the project has delivered on time and on budget. It should also draw out lessons learned for the rest of the programme. We note the intention to do this on pilot projects e.g. the Haldon Hill green bridge, but have not discussed close out procedures more broadly as our case study projects are generally in implementation rather than delivered.

Recommendation 21: Close out

Where not yet in place, Highways England should develop close out procedures that provide insight into the project and update the BCR based on outturn costs.

Once a project has been in operation for a reasonable bedding in period, Highways England should carry out a proportionate post-opening project evaluation (POPE). This would usually be between one and five years depending on the size of the scheme, but the benefits of the ring-fenced funds are often longer term and potentially dependent on the delivery of third parties, so a longer period might be appropriate in some cases. The POPE should compare the predicted impact of the scheme before construction and the actual impact after scheme completion, enabling an assessment of whether it has delivered the anticipated benefits and assess whether similar interventions would offer value for money.

Monitoring and evaluation is important for Highways England to demonstrate that value for money has been delivered across the £900m portfolio and to learn lessons about which new initiatives (e.g. innovation schemes or green bridges) could be rolled out as business as usual. But because a relatively small number of schemes have been delivered so far,

Highways England has not established a method for evaluating ring-fenced fund projects, although they recognise that this needs to be addressed as a priority.

Highways England's focus on evaluation to date has been limited to cycling, safety and integration, as this is the fund which has delivered the most projects. Highways England has commissioned a scoping study from an independent organisation which aims to:

- define the evaluation objectives for each sub-fund;
- assess the coverage of monitoring data;
- recommend a robust evaluation method for assessing value for money; and
- consider how evaluation can learn lessons to support future decision making, e.g. as an opportunity to test and refine appraisal approach developed for cycling schemes.

Drawing on the outputs of this study, Highways England is planning to commission the evaluation contract for the CSI fund to start in 2018/19, and set out a high-level monitoring and evaluation plan for the ring-fenced funds more generally. Because each fund undertakes different activities, the CSI study is not expected to deliver a single solution across the funds. At some point Highways England will need to do a 'process' review to see if each of the funds is embedding evaluation. Although only a limited number of schemes have been delivered through the ring-fenced funds to date, that point is now approaching.

HE has traditionally contracted out evaluation work and overseen the method and results. This approach was effective at building a large evidence base on standard journey times and safety impacts, but Highways England believes it is less suitable for its bespoke evidence needs to support new activities. In addition, since July 2017 the evaluation of major schemes has been brought in-house with a new team established, which could have a role in evaluating ring-fenced projects. The new team is currently small and has limited capacity to lead on such a large programme. It is also likely that it will need to develop specialist expertise in evaluating the wider range of benefits arising from these schemes.

Although there are plans to expand the Highways England evaluation team, there is a risk that it will not be able to carry out a robust sample of evaluations from across the funds as well as dealing with priorities related to the core RIS programme. It seems likely that Highways England will still be developing its approach to evaluating the ring-fenced funds at the same time as it plans for RIS2, which means there is a significant risk that it will make commitments on future investment without confirming whether the funds delivered value for money during RIS1.

8. CONCLUSIONS AND RECOMMENDATIONS

In this section we draw together the main themes identified in the report and present the recommendation that are included in the preceding chapters in a single table below.

8.1. Conclusions

Highways England has recognised that progress and delivery of the ring-fenced funds provided as part of the RIS settlement with DfT is insufficient. Its own internal audit raised a large number of issues regarding management and governance of the funds. Highways England has been responding to these and has made progress by establishing a central PMO as a focus for management of the funds.

The programme has gained some momentum over the course of the last year as a result of the application of dedicated resources. A number of the original audit recommendations are considered addressed and closed. It is also the case that there now exists a more substantial pipeline of projects for all funds except air quality.

Notwithstanding this progress, our review demonstrates that a number of significant challenges remain:

- It is not clear that Highways England has sufficient clarity on its requirements for project funding that it can explain these to external stakeholders consistently at central and regional levels;
- The PMO does not have the oversight of projects that is required to control the funds effectively. Data from its internal systems is inconsistent and performance management information and risk data is poor.
- This is compounded in those funds that have a large number of projects and where the consequent data requirement is extensive.
- The PMO is reliant on the regions for data and it is not clear whether the regions are insufficiently focussed on the funds or under resourced to provide that data.
- Project delivery has yet to ramp up. Expenditure forecasts for each of the last two years have not been achieved and it seems highly unlikely that they will be this year.
- Delivery is increasingly back end loaded and it is not clear that Highways England has the capacity to deliver the programme.
- It is not clear that the programme currently has sufficient executive level input/support to rectify the issues identified.

The table below sets out the recommendations that we have made throughout the report. We note that the PMO is aware of many of the issues identified in this report and is already considering how they might be resolved:

Table 8.1 Recommendations:

Number / Heading	Recommendations
<p>Recommendation 1: Stakeholder engagement and transparency</p>	<ul style="list-style-type: none"> a. Stakeholders need greater and more effective methods of involvement than are available at present b. Highways England should make it an immediate priority to have clear guidance on project requirements and make sure this is widely available with appropriate application forms easy to access c. HE should make it an immediate priority to routinely feedback on projects. As suggested elsewhere in the report calling for potential projects in managed waves (with clear outcomes from each wave) could be a way forward d. Highways England should provide stakeholders with more transparent information on which projects have been funded and provide updates on their progress. HE should also produce an annual public facing report on its progress against ring-fenced fund commitments e. Highways England should consider further opportunities to rely on grant style provision in some funds and use of stakeholder supply chain for delivery to limit its own work load given issues of momentum, delay and the back end loading of the programme.
<p>Recommendation 2: Programme leadership</p>	<p>Highways England should consider whether it needs to make a permanent appointment to the director role to lead the PMO. Given the planned ramp up of expenditure and delivery in 2018/19, 2019/20 and 2020/21, the programme may become more difficult to manage and the team would benefit from senior level representation to help drive delivery across all areas of the business.</p>
<p>Recommendation 3: Fund Plans</p>	<p>Updating the Fund Plans to reflect the evolving delivery programme is likely to be a time intensive exercise. We recommend that the Plans become guidance documents which describe governance and process, and which do not need to be updated on a regular basis, except to incorporate lessons from delivery, stakeholder feedback and evaluation.</p>
<p>Recommendation 4: Delivery through stakeholders</p>	<p>Early signs suggest that the growth and housing fund has had some success with grant-style provision and use of stakeholder supply chains for delivery. Stakeholders report that they are more familiar with grant led processes and many use their own supply chains for delivery. Highways England should explore the possibility applying similar approaches in other funds, such as cycling and integration (which is already seeking to use the Sustrans supply chain), environment and air quality.</p>
<p>Recommendation 5: Capital / resource flexibility</p>	<p>Certain ring-fenced funds need a mix of capital and resource funding, notably the innovation and air quality funds which are undertaking both a number of research based pilot studies and are introducing new assets which have ongoing maintenance requirements (e.g. air quality monitoring stations). Highways England should explore with DfT and HMT whether some additional flexibility between capital and resource is possible going forward.</p>
<p>Recommendation 6: Air quality</p>	<p>Highways England should reconsider its current interpretation of the air quality fund criteria as we consider they will only facilitate strong pipeline development if interpreted in their broadest sense. Box 2 provides a case</p>

Number / Heading	Recommendations
	study on TfL's approach to developing air quality led schemes.
Recommendation 7: Performance indicators	Highways England has perhaps found it more straightforward to identify projects and delivery has more momentum where it is linked to a KPI in the performance specification (for example, Noise Important Areas and KSI casualties). We consider that there may be value in aligning any ring-fenced funds in RIS2 to specific performance targets. Highways England should consider this with DFT.
Recommendation 8: Resources	Additional management resources have been provided centrally and are delivering improvements but the central PMO team is dependent upon the regions for pipeline development, project management and delivery. We note a number of issues in the review e.g. inconsistent stakeholder engagement and poor performance data quality (see sections 4 and 6.4), that imply that the lack of focus on ring fenced funds identified in Highways England's own audit may still exist in the regions (though we have not discussed this with them). Highways England should reflect upon the adequacy of regional resources and the clarity of leadership and communication from the centre.
Recommendation 9: Major Projects	Latterly, Highways England has made progress with the Major Projects directorate and has secured its engagement in the Designated Funds IDC and the Steering Group. However, as the division responsible for the delivery of major capital schemes, it is important that going forward Major Projects is fully engaged in the process of identifying potential schemes and give appropriate priority to the delivery ring-fenced funds projects.
Recommendation 10: Financial flexibility	In addition to flexibility between capital and resource (recommendation 5), Highways England needs to introduce the flexibility to deliver schemes using contributions from multiple funds. This means that Highways England may require some ability to move the allocation of funds around (i.e. an increase in one fund would be offset by a decrease in another), but it also needs to establish adequate controls to ensure this flexibility is used appropriately.
Recommendation 11: Business case methodology	Highways England should ensure that its business cases are consistent across schemes and, wherever possible, funds. In some of the early projects we observed differences in the business cases of smaller schemes (particularly in innovation and air quality).
Recommendation 12: Wider benefits	Highways England should pay special attention to cases that rest on wider or difficult to quantify benefits, but should not shy away from them. There is wide support for these types of projects amongst stakeholders. These projects require careful monitoring to ensure that VFM is maintained – slippage and cost increases should be carefully monitored.
Recommendation 13: Initial sift criteria	Some of the projects funded via the Growth and Housing Fund only just demonstrate good value for money. These projects are likely to require additional oversight to provide assurance that they meet the scheme criteria. To address this, we would recommend that potential Growth and Housing projects should have to demonstrate "very good" value for money at the initial sift stage, even if this would lead to another call for projects.
Recommendation 14:	Not all the funds are currently prioritising which projects should proceed

Number / Heading	Recommendations
Prioritisation	within finite budget allocations. As funds availability diminishes, fund managers need prioritisation tools. Mandating the production of business cases is a good starting point, but in some of the other funds Highways England may want to consider calls for proposals in waves. This could help to replicate the interest among external stakeholders in the growth and housing fund, and allow Highways England to consider in the round which schemes it should prioritise for funding.
Recommendation 15: Project reporting	Greater attention should be paid to maintaining up to date and accurate information on project progress. In addition to the information currently collected, the PMO should capture information on the BCR of projects and highlight those which require careful monitoring for VFM or other reasons.
Recommendation 16: Scheme grouping	In order to better manage the reporting requirements of those funds with a proliferation of small schemes, we suggest that Highways England bundles these into related groups; this is something that the PMO is considering. Projects could be grouped nationally or by region depending on the projects themselves. A single project manager should then be assigned responsibility for reporting and delivery of each bundle.
Recommendation 17: Deliver consistent data reporting	<p>Consistent and accurate project reporting should be a priority for the PMO. Systems and processes that provide accurate, consistent and current information need to be developed and embedded across the business. Achieving this will likely require senior management support i.e. to mandate consistent and timely reporting through all relevant systems by project managers and to ensure that systems have like data/timing requirements to limit the scope for inconsistency.</p> <p>NOTE: The recommendation should be read alongside recommendation 8 which suggests that additional resources may be required.</p>
Recommendation 18: Risk and optimism bias.	Highways England needs to actively consider risk and all project cost assessments should include an appropriate allowance for risk and optimism bias. Highways England's approach should be compliant with HM Treasury's Green Book and DFT's WebTAG guidance, but they should also draw upon their own evidence base where appropriate.
Recommendation 19: Risk management	Appropriate risk management needs to be put in place at the level of each individual fund and the overall portfolio, starting with regularly updated risk registers. This will help the PMO and the funds' executive oversight to take proactive action to reduce the likelihood of programme delays and over/underspends.
Recommendation 20: Role of the Executive	Success of the ring-fenced funds programme depends on all areas of the business. In our view there should be a business-wide committee with executive level leadership and a remit to consider the issues that have been identified in this review which are impeding progress of the funds. This committee should be accountable for the resolution of those issues via recourse to the executive team where appropriate.
Recommendation 21: Close out	Where not yet in place Highways England should develop close out procedures that provide insight into the project and update the BCR based on outturn costs.