

Longer-term implications of Highways England's road period 2 delivery

Routes to Market review

Final Report

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Prepared by Elliott Asset Management Ltd

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Author:	James Elliott, Director and Principal Consultant, Elliott Asset Management Ltd		

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Acronyms

A to M		N to Z	
ABPM	Alliance Budget Pricing Model	NEC	New Engineering Contract
AD	Asset Delivery	NM	Network Management
ASC	Asset Support Contract	OBC	Outline Business Case
C&P	Commercial and Procurement directorate	Ops	Operations Directorate
CDF	Collaborative Delivery Framework	PAD	Progressive Asset Delivery
CIP	Complex Infrastructure Programme	PCF	Project Control Framework
CIPS	Chartered Institute of Procurement and Supply	PCR	Public Contract Regulations
CWF	Construction Works Framework	PI	Performance Indicator
DIP	Design Integration Partner	PMO	Programme Management Office
DSC	Design Services Contract	PSC	Professional Services Contract
EDP	Efficiency Delivery Plan	RDP	Regional Delivery Partnerships
EIMM	Efficiency and Inflation Monitoring Manual	RIP	Regional Investment Programme
FBC	Full Business Case	RIS	Road Investment Strategy
HMT	HM Treasury	RP1 (2,3)	Road Period (1:2015-20, 2:2020-25, 3: 2025-30)
IDC	Investment Decision Committee	SDF	Scheme Delivery Framework
KPI	Key Performance Indicator	SMA	Smart Motorway Alliance
M&R	Maintenance and Response		
MAC	Managing Agent Contractor	SME	Small and Medium Enterprise
MEAT	Most Economically Advantageous Tender	SMP	Smart Motorway Programme
MP	Major Projects Directorate	SRN	Strategic Road Network

Glossary of terms

The following definitions have been extracted from the Highways England RIS2 Delivery Plan and other documents to aid readers understanding of the contract models reviewed in this project.

Road Investment Strategy – UK Government’s long-term strategy for the strategic road network.

Regional Investment Programme (RIP) – Highways England’s programme of regional delivery improvements.

Routes to Market Programme (RtM) – Highways England has provided forward visibility to help our supply chain to make plans to commit resources and people, to encourage innovation and to bring new highway suppliers into the market. It consists of the Regional Delivery Partnership, Smart Motorways Alliance, and Complex Infrastructure Programme.

Regional Delivery Partnerships (RDP) – Regional Delivery Partnerships incentivise suppliers to improve safety and deliver increased value. This approach contains incentives for results including shorter and more accurate roadworks; more efficient, local buying; innovation; and increased environmental benefits.

Smart motorways (SM) - Motorways that use technology to manage the flow of traffic, controlled from Highways England control centres. They monitor traffic and set variable speed limits and signs to help keep the traffic flowing safely and freely. All lane running - A smart motorway which includes the permanent conversion of a hard shoulder to a running lane and features regular emergency areas.

Asset Delivery (AD) – This approach enables us to directly manage maintenance operations and scheme delivery. Through Asset Delivery, Highways England will improve its asset knowledge and increase its control, including over interventions, planning, and sequencing. This will improve safety and quality, as well as reducing disruption and delivering better long-term value for money.

HM Treasury Five Case Model – A methodology for the preparation of business cases, the Five Case Model is applicable to policies, strategies, programmes and projects and comprises of five key dimensions: The Strategic Case, The Economic Case, The Commercial Case “ The Financial Case “ The Management Case.

Efficiency (extracted from 2020 Highways England Efficiency and Inflation Monitoring Manual) – The EIMM defines efficiency as ‘an improvement in the relationship between inputs and outputs (the final product delivered) or outcomes (the measured impact of the output) achieved’.

Executive Summary

Project Background

This project has been commissioned by the Office of Rail and Road (ORR) as part of its review of the longer-term implications of Highways England's Road Period 2 delivery (RP2). It considers the progress Highways England has made in three procurement and delivery models to gather performance evidence to show that the envisaged benefits particularly in terms of efficiency are or will be delivered. The three procurement and delivery models reviewed are Regional Delivery Partnerships (RDP), the Smart Motorway Alliance (SMA), and Asset Delivery (AD).

The project has addressed the following questions:

For all procurement models:

- [A] How is Highways England gathering performance evidence to understand whether the benefits envisaged (particularly in terms of efficiency) are/will be delivered?
- [B] How are Highways England's KPI's linked to contractual performance?
- [C] Can lessons be learned from other sectors and what suggestions could be made to improve contractual models?

For Regional Delivery Partnerships and Smart Motorways Alliance:

- [D] Are these procurement models appropriate for RIS3 and is there a robust review process to facilitate continual improvement?

For Asset Delivery:

- [E] What lessons learned from early implementations have been taken onboard?
- [F] What benefits evidence including regional variance has been realised to date and what further benefits (potential efficiencies) could be achieved?

The project team has developed its findings and recommendations from a review of published literature, evidence provided by Highways England and consideration of wider procurement practice. EAM would like to thank Highways England for their cooperation and access to staff during the study.

Project recommendations

As Highways England delivers its procurement models during the early years of RP2 and develops its plans for RP3 we have identified a series of recommendations for ORR to consider for its RP2 monitoring, its preparations for RP3, (including as part of its role in the third Roads Investment Strategy [RIS3] process), and for its monitoring during Road Period 3 (RP3).

Table 1 sets out the project findings and recommendations for ORR together with our suggested timescales:

- **RP2**, recommendations for ORR for RP2 monitoring;
- **dRP3**, recommendations for ORR to consider for RIS3 and preparations for RP3; and
- **RP3**, recommendations for ORR to consider for RP3 monitoring.

Table 1 – Project findings and monitoring recommendations for ORR (including delivery timescales)

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
A	How is Highways England gathering performance evidence to understand whether the benefits envisaged are/will be delivered?					
A1	Performance evidence (RDP)	<p>Finding 1 - RDP efficiency analysis - Highways England has provided evidence of a robust process of estimating efficiency for RDP schemes. This process relies on the accuracy of cost estimates. These estimates are refined as a scheme progresses and the scope of works and design become clearer. A probabilistic approach with range estimates is followed. To the extent that initial estimates are overestimates, reported efficiency will be higher and vice versa.</p> <p>Finding 2 – By definition, efficiency is measured against a baseline project scope and cost estimate. The underlying concept of RDP is to devolve design responsibility to the Delivery Integration Partners thereby inviting these Partners to propose changes to the initial design. This can create challenges in the reporting of efficiency as both design and cost (and even scope) changes often occur simultaneously. Highways England operates with a central portfolio risk reserve which is an integral part of the post efficient funding and enables the risk of scope change to be managed without compromising efficiency (within limits). It reported that it has a high level of confidence that it will be able to evaluate if RDP planned efficiency benefits are being delivered.</p>	<p>[ORR A.1.1] – To provide continuing confidence in the performance of RDP, ORR should require Highways England to provide 'best practice' examples and case studies in RP2 of how the processes in the EIMM are applied in practice, in its internally published efficiency guides, efficiency delivery plan and/or as evidence for annual Efficiencies Report.</p> <p>[ORR A.1.2] – ORR should consider for RP3: (i) how the next edition of the EIMM can become more transparent for users and ORR using worked examples and (ii) how the format of annual efficiency reporting of RDP schemes (non-published) can be improved to show increased transparency – for example by clear presentation of the build-up of total efficiency according to the numbers and contributions to total efficiency from projects in each cost range.</p> <p>[ORR A.1.3] – ORR should consider how Highways England provides evidence of the impacts of design change on RDP scheme efficiency, the evolution of design and construction costs in parallel, and how it trades-off cost changes with wider or long-term</p>	Y	Y	Y

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
			public value considerations such as user benefits.			
A2	Performance evidence (SMA)	<p>Finding 3 – From the project evidence and our engagement with Highways England, the SMA model has a process in place to measure and monitor programme and supplier performance. Highways England has a high level of confidence that should allow it to evaluate progress of the SMP against efficiency and other business case benefit targets. However, we have concluded that it is too early to find evidence that this has been effective. Whilst SMA is at a very early stage, interviews suggest that Highways England is responding effectively to the challenges of delivering and reporting efficiency.</p>	<p>[ORR A.2] – It is recommended that ORR should continue to monitor Highways England’s evaluation of SMA progress against efficiency and other business case benefits, including changes to the RP2 baseline, during RP2 and in RP3. This will provide insight into how Highways England is using the learning from SMA to develop future enterprise procurement models.</p>	Y	Y	Y
A3	Performance evidence (AD)	<p>Finding 4 – Highways England has provided evidence that shows overall improvements in its operations including; safety, increases in outputs and reduction in reactive works, improvements in lane availability, incident clearance, customer complaints and efficiency. It has reported that at a macro level it is delivering an improved and safer service despite year-on-year reduced funding (no inflation uplift of budgets), and it is confident that it will demonstrate that this is largely down to the AD approach.</p> <p>Our finding is that currently available evidence is not sufficient to enable Highways England to clearly link these improvements back to the AD model. The evidence does not differentiate performance between those AD and non-AD regions and does not yet demonstrate that delivery is more efficient as a direct result of AD.</p> <p>Each AD contract model shows a clearly set out business case with target benefits and a process in place to evidence and</p>	<p>[ORR A.3] – ORR should continue to monitor the performance of the AD model including the approach Highways England is planning for its Case Study review. The Case Study should provide an appropriate baseline to monitor subsequent AD model performance including whether AD is delivering more efficiently and is meeting its business change ambition. As part of this, the Case Study should seek to demonstrate how efficiency gains are reflected in historic and current cost and activity data and envisaged from the transition to new contracts such as the Scheme Delivery Framework (SDF). A cost allocation modelling approach may be useful as a basis for cost benchmarking and comparison between AD regions.</p>	Y		

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
		<p>evaluate AD performance including efficiencies. However, we have not seen sufficient evidence that Highways England has or will be able to fully assess whether it is meeting these business case targets.</p> <p>Highways England is planning a Case Study review for AD in 2021. It acknowledges that it may be challenging to provide specific evidence against some of the business case objectives for individual AD contracts.</p>				
B	How are Highways England’s (Key Performance Indicators) KPIs linked to contractual performance?					
B1	Measuring contractual performance	<p>Finding 5 – All three contract/programme approaches will contribute indirectly to a significant number of Highways England’s KPIs. From the project evidence and our engagement with Highways England we can see the RDP model has a logical contract mechanism to collect performance evidence in its regions and a process that this evidence can be linked back to national business case targets. The evidence we have seen includes RDP national level monitoring of benefits within a balanced score card approach and a regional example (for an A12 improvement scheme) which are aligned to corporate KPIs. The A12 regional scheme example provides a robust process to capture contract performance. The performance of AD contracts will contribute to asset KPIs as well as contributing to safety performance, average delay, network availability and incident clearance. SMA and RDP will also contribute to these latter measures. All three models contribute to road user satisfaction and roadworks information timeliness and accuracy.</p>	<p>[ORR B.1.1] – ORR should carry out a further review of the RDP programme to assess its process for evidencing the procurement model’s measurement and monitoring mechanisms for contract performance against business case targets.</p> <p>[ORR B.1.2] During a procurement or delivery model’s “bedding down” period (which may differ in stages and durations for RDP, SMA and AD), ORR could request that HE provides specific examples of contract performance best practice and how it is disseminated, at agreed time frames. Examples could include Highways England’s resourcing and monitoring approach to support potential improvements in contract performance that may accrue over a programme’s life.</p>	Y	Y	

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
C	Can lessons be learned from other sectors and what suggestions could be made to improve contractual models?					
C1	Industry procurement good practice	<p>Finding 6 – From the evidence that we have seen, Highways England has adopted many elements of industry good practice in its procurement models and has a pathway to more collaborative and enterprise procurement. It has built on what was good about CDF and used lessons to evolve RDP and SMA. However further procurement evolution will depend on Highways England’s continued internal maturity and the maturity of its supply chain. Highways England is active in industry commercial and procurement groups which provide both a scanning and sharing capability and are viewed as world leaders in the roads sector in terms of contract model types and procurement option usage. From the evidence that we have seen we have concluded that Highways England is able to make the right steps forward with its procurement models at the right time as it brings the industry along the journey with them.</p>	<p>[ORR C.1] – ORR should continue to monitor Highways England’s evaluation of its internal and supply chain maturity in RP2 to meet its future enterprise ambitions i.e. its capability, capacity and performance. ORR should also monitor the sources of information used to evaluate this maturity such as market research, recognising that this needs to consider several areas:</p> <ul style="list-style-type: none"> • Highways England’s own feedback • Feedback from existing and potential supply chain • Scanning of other UK and international infrastructure sector procurement models • Sharing/learning from good practice. 	Y		
C2	Enterprise model development	<p>Finding 7 – Following on from Finding 6, to fully realise the potential of an enterprise model including its effective communication and scalability, Highways England will need to ensure that the lessons learnt from the SMA are disseminated widely and are used to test the maturity of its internal organisation and that of the supply chain. Aspects of the AD model such as asset management in an enterprise form could have equal relevance to future models. Highways England will also need to ensure that its supply chain messaging and communication encourages all tiers to engage in future procurements and service delivery. Specifically, Project 13 identifies that the greatest benefits from an enterprise model can</p>	<p>[ORR C.2] – ORR should continue to monitor Highways England’s journey towards an enterprise procurement model. This needs to consider market appetite and both internal and supply chain maturity. ORR should ask Highways England to evidence that lessons learned from the newest contract models such as SMA are being disseminated and that Highways England provide continual messaging to the supply chain during all phases of project delivery i.e. pre-procurement market dialogue, the procurement process, mobilisation and</p>		Y	

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
		<p>be realised when applied across whole asset networks not just projects (Scale) and when long-term relationships are developed (Time). It is difficult to argue with these concepts but does pose important questions and challenges for Highways England:</p> <ol style="list-style-type: none"> 1. Scale: Highways England operates a geographically widespread asset with a diverse portfolio of programmes, projects and services. Highways England will need to carefully consider the lessons learnt from SMA and adapt them to suit. Other asset owners such as those used in the Project 13 case studies tend to have developed enterprises to deliver projects / programmes in more limited areas. 2. Time: Highways England has a very large and diverse supply network. Whilst long-term relationships offer great benefits, it will need to consider carefully how it continues to provide opportunities across the supply chain and to support its stated objectives of widening its supplier base to include more regional, T2 and T3 organisation. The risk is that expertise and experience in delivering enterprise models becomes concentrated and much of the market is locked out. 	<p>delivery phases. It also includes an assessment of the maturity that Highways England has of its supply chain’s understanding of an enterprise model, the alignment and incentivisation of all model participants and of the role of the Integrator (which is pivotal for an enterprise environment).</p>			
D	For Regional Delivery Partnerships and Smart Motorways Alliance are these procurement models appropriate for RIS3 and is there a robust review process to facilitate continual improvement?					
D1	RIS3 procurement models	<p>Finding 8 – Evidence from this project shows that both the RDP and SMA models although different have the potential to be successful and to be suitable for use in RIS3. RDP has the potential to be enhanced into an enterprise model however this will require a sufficient level of maturity within Highways England and the supply chain.</p>	<p>[ORR D.1] – ORR should review Highways England’s business case for moving to an enterprise model in RIS3 and beyond. This should include evidence that Highways England has assessed itself and its supply chain to be at</p>	Y		

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
		We note that the AD model is based on long term contracts and will extend into RIS3 in broadly its current form, albeit rolled out across all regions.	the right level of maturity (capability, capacity and performance).			
E	For Asset Delivery what lessons learned from early implementations have been taken onboard?					
E1	Asset Delivery contract improvements	<p>Finding 9 – From the evidence we have reviewed, Highways England has a contract improvement process in place to capture lessons learned from each AD procurement through a Contract Change Register. This process is used to identify contract changes and enhance subsequent AD procurement. Highways England can introduce AD-wide changes through Deeds of Variations (DoV) and there is evidence of learning from the change of AD contract length from a potential 15 years to a fixed 8 years.</p> <p>Highways England provided a robust suite of supporting evidence to demonstrate the lessons learnt and contract changes process which supported the decisions made for subsequent AD procurement improvements.</p> <p>The project evidence does show that Highways England has introduced lessons learned to overcome the challenge of understanding asset condition at handover and to improve contract financial sustainability for AD suppliers. For example, introducing more rate items into the tender documents to better reflect the scope of services.</p>	Linked to ref. A3 . See ORR recommendation [ORR A.3] which applies here.	Y		

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
F	For Asset Delivery what benefits evidence including regional variance has been realised to date and what further benefits (potential efficiencies) could be achieved?					
F1	Asset delivery supply chain relationships	Finding 10 – From the project evidence and our engagement, Highways England has made several qualitative statements in its RIS2 Delivery Plan about the improvement in supplier relationships arising from AD. This is supported by a limited amount of industry evidence, including from ORR’s Supply Chain Strategy report, that regional suppliers value the changes that AD is bringing. Industry has seen good progress made with CWF but not as much progress with the M&R part of AD where Highways England has not been able to attract its target Tier 2 suppliers. It is planning to introduce iterative improvements through changes to its contract suite such as SDF to attract a wider range of Tier 2 and 3 suppliers. It is important that the benefits including efficiency assumptions are baselined and monitored as SDF is introduced. Highways England has an SDF programme case study which could provide the baseline against which progress is monitored.	[ORR F.1] – ORR should monitor Highways England’s ongoing evaluation of the AD procurement model, its procurement components and the relationship that HE has with its supply chain tiers. It is suggested that ORR commissions a follow up independent review of supply chain feedback to provide confidence in Highways England’s supply chain approach for future AD procurement. This should include a review of Highways England’s approach and degree of success with attracting Tier 2 suppliers into the AD M&R maintenance contracts.	Y		
F2	Asset Delivery future benefits	Finding 11 – Highways England is on a journey of learning from its AD contract models and although we have not been provided with sufficient evidence to allow us to understand if it will be able to meet the objectives of its early AD contract business cases, Highways England has reported that it is carrying out a Case Study review in 2021. In addition, Highways England has introduced the second phase of its operational excellence transformation programme, OE2025, which commenced in August 2020, to align with RIS2 and ensure achievement of the efficiency target. It is important for benefits evaluation including the modelling of efficiencies that Highways England establishes a	Linked to refs. A3 and C1 . See ORR recommendations [ORR A.3] and [ORR C.1] which apply here.	Y		

Ref.	Theme	Finding from project evidence	Monitoring recommendation for ORR	RP2	pre-RP3	RP3
		<p>baseline for each region to be able to distinguish the benefits accrued from AD and those from OE2025.</p> <p>Following on from Finding 10, a reference to encouraging tier 2 suppliers into the maintenance contracts was made in Highways England’s business case option table as one of the benefits of AD. Highways England acknowledges that this has not been achieved as tier 1 suppliers currently occupy all the M&R contracts let to date. Highways England acknowledge that more engagement is required with tier 2 suppliers to help them understand the M&R contracts models.</p>				

1 Project synopsis and findings

Contract procurement and operational transformation context

Routes to Market (RtM) comprises Regional Delivery Partnerships (RDP), Smart Motorway Alliance (SMA) and the Complex Infrastructure Programme (not studied in this project). It is a 'management' approach to developing contracts and frameworks to deliver the enhancement projects within Highways England's second road investment programme. Asset Delivery (AD) sits alongside RtM as Highways England's regional operations delivery model and is being delivered through a major business change programme as part of a wider ranging and ongoing transformation programme. AD is being rolled out in phases and will be complete by 2022. It is a long-term programme for which the benefits will take time to be fully realised.

During Road Period 1 (RP1) Highways England introduced innovative and collaborative delivery models including RtM and AD shown in [Table 1.1](#).

Table 1 – Routes and Market and Asset Delivery contract summary

Procurement approach		Procurement model	Start date and duration	Replaces
Routes to Market (RtM)	Capital enhancements	Regional Delivery Partnerships (RDP)	2018 6-years £9bn 35 schemes	Collaborative Delivery Framework (CDF)
	Smart motorway enhancements	Smart Motorway Alliance (SMA)	2020 10-years £3.2bn 70+ schemes	CDF
Asset Delivery (AD)	Regional network management, maintenance and renewals	Maintenance and response (M&R), Construction Works Framework (CWF) and Design Services Contract (DSC)	2016 to 2020 M&R – 15-years moving to 8-years, CWF – 4-years, DSC 5-years	Asset Support Contract (ASC), Managing Agent Contract (MAC)
		Scheme Delivery Framework (SDF)	2021 6-years	Design Services Contract (DSC), CWF

RtM has been used to develop contract models to suit Highways England's RIS requirements. Asset Delivery as a transformation programme consists of a suite of contracts within each region including Maintenance & Response (M&R), Design Services Contract (DSC) and Construction Works Framework (CWF). The three contracts within each operational region replace the Asset Support Contract (ASC) and Managing Agent Contractor (MAC) models, with many functions being brought in house. The Scheme Delivery Framework (SDF) is Highways England's current procurement in AD contracts to replace DSC and CWF.

RDP is founded on the concept of delivering regional capital enhancements through Delivery Integration Partners (DIP): multi-disciplinary integrated teams who are contracted on a scheme-by-scheme basis within regional frameworks. RDP was established to provide a decentralised, regional

approach which should be well suited to engendering competition and ideas transfer, including efficiency saving ideas between regions.

SMA applies only to the delivery of the SMART motorway programme (SMP). Motorways without SMART features and non-motorway improvements are delivered under RDP. SMA is therefore a special case example of this new approach to procurement relating to an important subset of Highways England's capital enhancement project portfolio in RIS2. SMP projects are more technology intensive and require a wider range of civils and specialist technology suppliers than RDP.

A summary of the benefits and business cases for AD, RDP and SMA are in [Appendix 1 to 3](#).

Efficiency context

A key part of this project was to consider Highways England's measurement of efficiency as it applies to RDP, SMA and AD.

Highways England's definition and measurement of efficiency is set out in the Efficiency and Inflation Monitoring Manual (EIMM, 2020).

The EIMM defines efficiency as 'an improvement in the relationship between inputs and outputs (the final product delivered) or outcomes (the measured impact of the output) achieved'.

Highways England's experience with driving efficiency with the supply chain in AD contracts is mainly about productivity improvements, better programming and scheduling such as through improved asset knowledge, combining schemes and working more effectively with the supply chain. Limited efficiency comes from improving margins through competitive bidding or rate enhancements which only provide marginal improvements. To evidence this Highways England reported that during RP1 the average value of AD renewal schemes has risen considerably which is likely to have increased efficiency. Supply chain innovation will also help to improve efficiency although Highways England's evidence shows that this is minor compared to efficiency gains through better working practices.

Productivity improvement is also key for the delivery of capital enhancement schemes. Through its major projects transformation programme in RP1, Highways England's can evidence an improvement in its project management maturity when compared with other similar infrastructure organisations. These improvements include realised capital savings/cost avoidance of around £1.4bn through identification and reduction of low-benefit schemes and established communities of practice for core project control functions e.g. risk management. The RDP procurement model has been designed to build-in efficiency through its procurement process, for example through the supply chain tendering lower rates or progress with technology or productivity improvements. Once in contract the supply chain is monitored on delivering these promises (efficiencies).

Contract models and delivery timescales

Based around the NEC form of contract and heavily focused on collaboration, Highways England intends that these contract models represent a fundamental change in the way projects are delivered. They are performance rather than price based and are intended to focus on building the right projects with the best outcomes for road users and other stakeholders.

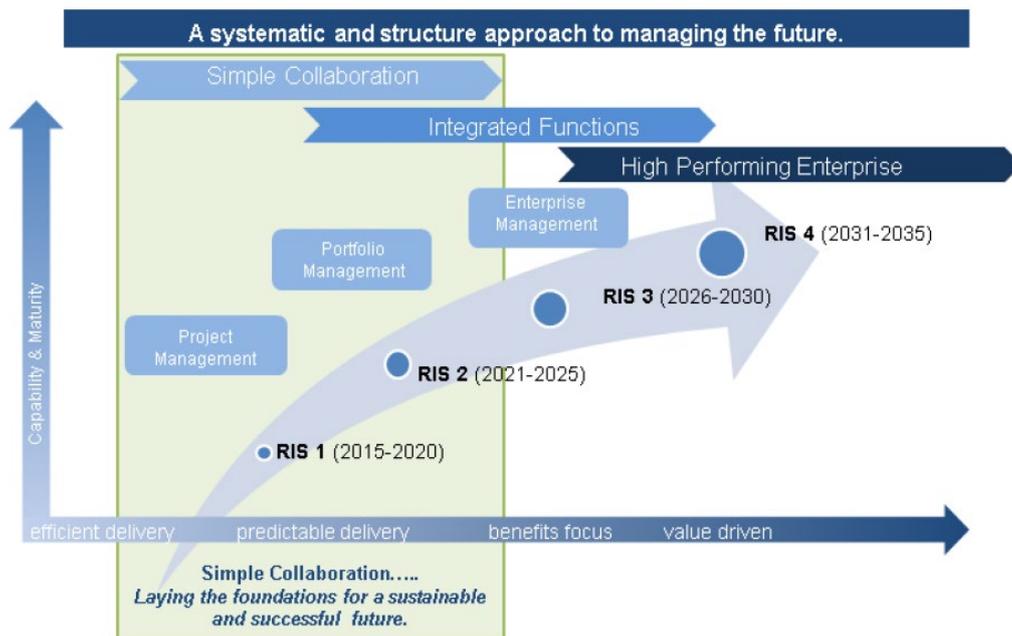
The constituent contract models are at different stages of implementation: AD started in 2016 and will be fully rolled out by 2022, RDPs commenced in 2018 and the SMA was recently awarded. Each contract programme has targeted efficiency savings as part of Highways England's overall RIS2 efficiency expectation of £2.23bn in capital and operation expenditure by the end of RP2.

The cycle and length of AD contracts including the remaining contracts awarded in next 18 months mean they will span RP3. Highways England's options for the continuation or replacement of AD in RP4 will be developed in RP2. Aligned to AD is the Service Delivery Framework (SDF) which is

currently being procured to replace the CWF and DSC and will be for six years duration. The existing M&R's are fifteen years duration but going forward will be eight years.

RDP and SMA are a steppingstone for Highways England on its collaboration journey and during RIS2 it will develop 'Enterprise Partnerships' for use in RIS3 and RIS4 as shown in **Figure 1**. These partnerships represent an opportunity for closer relationships between Highways England and their suppliers and customers and where decisions are made based on benefit and value by all parties and delivered against asset requirements driven priorities.

Figure 1 – Highways England's enterprise model pathway



Project findings

The following project findings have been grouped against the questions in the project scope (A to F). *Note that the references made to efficiency expectations against the contract models are not part of the formal monitoring of Highways England's Efficiency KPI which relates to all aspects of Highways England's delivery in aggregate and is undertaken by ORR as part of business-as-usual monitoring.*

A – How is Highways England gathering performance evidence to understand whether the benefits envisaged in its procurement models are/will be delivered?

Highways England has a mature benefits realisation and efficiency approach which has been developed during RP1 and has been used to define its outcomes for RP2. As part of this approach Highways England has clearly defined the context, strategic, economic, commercial and procurement cases and expected benefits for RDP, SMA and AD in a series of Outline and Full Business Cases. The ambitions and expected efficiencies from deploying each of these procurement models to deliver the second Roads Investment Strategy (RIS2) are set out in Highways England's RIS2 Strategic Business Plan (SBP) and Delivery Plan. The Delivery Plan outcomes and the build-up of efficiencies for each of Highways England's functions including schemes and operations delivered by RDP, SMA and AD received a series of scrutiny challenges in the run up to RP2. For RDP and SMA the result was a post-efficient delivery plan, adjusted for the RIS2 programme, Statement of Funds Available (SoFA) and impact resulting from the Smart Motorways Stocktake.

Highways England efficiency expectation

Highways England has an Efficiency KPI (£2.23bn of operational and capital expenditure efficiency achieved by the end of Road Period 2) which is further defined in the Operational Metrics Manual (OMM) and EIMM. The efficiency expectation is based on an embedded efficiency approach for parts of the RP2 Business Plan which relies on the availability of well-defined baseline costs. The remaining efficiency expectation is through capturing measured efficiency (this is the same approach used in RP1). The RP2 move to embedded efficiency is stated to “change the emphasis on reporting efficiency in RP2, creating stronger internal incentives for Highways England to continue to measure efficiency, while managing the administrative burden in the way efficiency is monitored”.

Routes to Market and Asset Delivery efficiency expectation and progress

From the evidence provided to this project Highways England has reported that RDP has identified an embedded efficiency of 7% across the RIP programme although extra value is expected to be achieved through post-procurement efficiencies.

The RIS2 efficiency expectation for the SMA prior to the Stocktake was £133m (which is currently included in the Efficiency KPI).

Operational expenditure in RIS2 is forecast at £3.6bn (excluding PFI payments) and the embedded efficiency expectation is £228m. Within this total, the assumed efficiency contribution is just under half from delivery of AD contracts.

Performance evidence approach

The way performance evidence is used to understand whether efficiency benefits are realised has changed for RP2 and is based on “...providing sufficient, reasonable quality evidence to allow ORR to

determine if the Efficiency KPI has been met at the end of RP2. This evidence gathering should avoid unproductive data collection or administration, and not incur excessive cost or resource demands”. The significant difference in the monitoring approach between RP1 and RP2 is that embedded efficiency will be primarily measured by the delivery of outputs/outcomes, supported by appropriate secondary evidence, where required. Highways England says, “this will result in a better, less burdensome, more efficient approach for evidencing efficiency in RP2”. Highways England will still capture its primary evidence for measured efficiency through an efficiency register and case study process. Individual efficiency evidence is collected by Highways England and feeds into the efficiency register developed for each scheme.

RDP efficiency performance

Highways England’s approach to RDP performance evidence is to develop a central evidence case study (i.e. one that covers the sum of all efforts above and beyond the RDP scheme delivery) once all Delivery Integration Partners (DIP) budgets have been set. This includes the intention to measure changes in the unit costs for ‘more standard’ elements of enhancement schemes which could form part of the supporting evidence that RDP is delivering improved efficiencies in the long term. Highways England reported that this may take several years to develop given that it takes time to develop a database of completed enhancements. The range of RDP benefits will be influenced by final budget agreements, collaborative team outcomes, design development and DIP performance payments. Progress to date in RIS2 from the first 25 out of 35 scheme awards includes £355m of efficiency savings (including inflation adjustment) against the pre-RDP commercial estimate. However, it should be noted that this is an interim figure which Highways England will seek to surpass as it delivers the schemes. Further embedded (“stretch”) efficiencies have also been identified that will be used to manage any future challenges across the portfolio.

Highways England has shared its RP2 Efficiency Delivery Plan blueprint with ORR. This sets out the end-to-end process and control and explains the four themes of efficiency sourcing, one of which is procurement. It summarises the RTM and how this will contribute to delivering the efficiency KPI.

Finding 1 - RDP efficiency analysis - Highways England has provided evidence of a robust process of estimating efficiency for RDP schemes. This process relies on the accuracy of cost estimates. These estimates are refined as a scheme progresses and the scope of works and design become clearer. A probabilistic approach with range estimates is followed. To the extent that initial estimates are overestimates, reported efficiency will be higher and vice versa.

Finding 2 – By definition, efficiency is measured against a baseline project scope and cost estimate. The underlying concept of RDP is to devolve design responsibility to the Delivery Integration Partners thereby inviting these Partners to propose changes to the initial design. This can create challenges in the reporting of efficiency as both design and cost (and even scope) changes often occur simultaneously. Highways England operates with a central portfolio risk reserve which is an integral part of the post efficient funding and enables the risk of scope change to be managed without compromising efficiency (within limits). It reported that it has a high level of confidence that it will be able to evaluate if RDP planned efficiency benefits are being delivered.

SMA efficiency approach

SMA – through which Highways England is delivering the smart motorway programme (SMP) - represents Highways England’s most collaborative form of contract model and is seen as ‘a showcase’ for future models. There are two mobilisation phases within the SMA programme:

accelerated and full mobilisation. Highways England reported that it has completed the accelerated phase and is now into full mobilisation although Covid-19 has made this process more challenging. Highways England also reported that there have been early opportunities during mobilisation to create a comprehensive delivery plan including a balanced scorecard approach to capture performance against benefits.

In terms of efficiency and performance evidence, the RIS2 efficiency expectation for the SMP prior to the Stocktake was £133m which is currently included in the Efficiency KPI.

Impact of SMP Stocktake

The Stocktake schemes are planned to be taken forward on ‘funding neutral’ basis which means that planned SMP schemes will need to be re-scheduled. Because of the need to fast-track Stocktake schemes these will not fully reflect all the efficiencies which will come with longer-term smart motorway projects and this will impact the current efficiency profile and KPI expectation but should not affect the way performance evidence is collected.

Highways England reported that it has issued 8 work orders worth approximately £1.4bn, aligned to the RIS2 delivery plan although the rescheduling of work due to the Stocktake has impacted the work allocation within the Alliance. Although this is the first year of RIS2, Highways England already recognise that to achieve their efficiency expectation by 2025 it needs to better understand how the Alliance can work to optimise the delivery programme. This work is ongoing through setting the Alliance ambition, co-located Alliance working groups and collaborative efforts to identify quick wins and mobilise the smart motorway programme.

As for other enhancements, the costs of delivering SMA schemes can be compared back to a pre-efficient baseline. However, we acknowledge that SMA schemes are likely to involve fewer repeated elements and costs are less easy to benchmark against historic delivery.

Finding 3 – From the project evidence and our engagement with Highways England, the SMA model has a process in place to measure and monitor programme and supplier performance. Highways England has a high level of confidence that should allow it to evaluate progress of the SMP against efficiency and other business case benefit targets. However, we have concluded that it is too early to find evidence that this has been effective. Whilst SMA is at a very early stage, interviews suggest that Highways England is responding effectively to the challenges of delivering and reporting efficiency.

Asset Delivery efficiency approach

AD has been progressively rolled out since 2016 with the latest region to change over in 2020. There will be then be two more AD areas in 2021 and the final one in July 2022. The benefits of AD, as reported in Highways England’s RIS2 Delivery Plan, include:

- “...already improved the way that we deliver our services and how we contract with our supply chain”.
- “... through this approach we are bringing in-house some of the early maintenance activities and working more closely and efficiently with our supply chain. We are managing maintenance operations in a more coordinated way, as well as giving greater direction around the actions we ask our supply chain to complete. Asset Delivery also enables us to benchmark cost and productivity information between our suppliers and regions”.

From the evidence we have seen and from what Highways England has reported, AD has changed the way that regional operations and maintenance are being delivered, compared to the previous contract models i.e. Managing Agent Contracts and Asset Support Contracts. This is reflected in the conclusions in ORR’s Supply Chain Capacity report “...The Asset Delivery strategy has also allowed the Company to get closer to suppliers that were previously in the extended supply chain”.

In advance of each area/region transitioning to AD there is a separate business case in which Highways England sets out the intended benefits and efficiency savings. Highways England told us that it no longer looks back at the business case in detail on an area/regional basis to see how it is performing against the business case. This is because there is so much change since AD it is not possible to be able to be sure benefits and efficiencies are solely down to the AD change. What Highways England is doing instead is to look at overall performance in each area/region against KPIs and efficiencies and use the roll out of its operational excellence transformation programme (OE2025) to drive improvements across its operations division. Highways England also recognise that it would not be possible to realise the full efficiency expectations required without having the AD approach in place across most if not all regions. During 2021, Highways England is intending to undertake an overall AD Case Study that, it believes will provide the assurance that AD is realising the anticipated benefits and more.

Highways England also reported that the efficiency improvements it is delivering are evidenced by the fact that, at a macro-level, it is delivering greater volumes of activity than in the previous roads period in the context of stable funding. Alongside this, metrics related to operational performance (e.g. safety and network availability) are showing improvements.

Table 2 – Asset delivery efficiency target

RIS2 operational expenditure and AD delivery target	£million
1. Operational expenditure within RIS 2	3,600 [1]
2. Embedded efficiency target	228
3. AD assumed contribution	Just under half of [2]

[1] excluding PFI

Since AD started in 2016, Highways England reported that there has not been a formal benefits realisation assessment against the FBC although it is confident it can evidence positive benefits at a macro level although it may be challenging to produce evidence against all expected benefits. Highways England’s ambition is to complete the AD rollout then carry out a formal benefits assessment¹. Highways England also reported that it uses a detailed lesson learned process and contract development log to iterate each new AD business case and this process includes stakeholder and supplier feedback.

Finding 4 – Highways England has provided evidence that shows overall improvements in its operations including; safety, increases in outputs and reduction in reactive works, improvements in lane availability, incident clearance, customer complaints and efficiency. It has reported that at a macro level it is delivering an improved and safer service despite year-on-year reduced funding

¹ Highways England told us that there is a Case Study in the pipeline covering the full value of the claim on how this is achieved but this will not be ready before this project is finalised.

(no inflation uplift of budgets), and it is confident that it will demonstrate that this is largely down to the AD approach.

Our finding is that currently available evidence is not sufficient to enable Highways England to clearly link these improvements back to the AD model. The evidence does not differentiate performance between those AD and non-AD regions and does not yet demonstrate that delivery is more efficient as a direct result of AD.

Each AD contract model shows a clearly set out business case with target benefits and a process in place to evidence and evaluate AD performance including efficiencies. However, we have not seen sufficient evidence that Highways England has or will be able to fully assess whether it is meeting these business case targets.

Highways England is planning a case study review for AD in 2021. It acknowledges that it may be challenging to provide specific evidence against some of the business case objectives for individual AD contracts.

Further discussion on the mechanisms that AD uses to capture benefits and lessons learned are described in questions E to F below.

B – How are Highways England’s KPI’s linked to contractual performance?

The Performance Specification and associated Key Performance Indicators (KPIs), Performance Indicators (PIs) and commitments published by the Department for Transport in the RIS2 Strategy set out what the government expects from Highways England from 2020 to 2025. The metrics against which performance is monitored and measured are set out in the Operational Metrics Manual and were developed in collaboration with the department, the ORR and Transport Focus. ORR also assessed the ability of Highways England to meet metric targets as part of their Efficiency Review.

As described above, the key metric linked to contractual performance is the Efficiency KPI and achieving expected efficiencies by the end of RP2. All other KPIs can be indirectly linked to varying degrees to the successful delivery of RDP, SMA and AD contracts but have not been the focus for this project. As well as the Efficiency KPI, Highways England measures the wider outcomes of its procurement models through contractual performance frameworks such as balanced scorecards. Contractual performance measures include scoring and incentivising the supply chain to achieve targets across a range of areas such as safety, environment and disruption mitigation.

Highways England reported that it continuously monitoring efficiencies across the business and we have seen evidence of monthly scheme monitoring and quarterly reporting to ORR. As well as quarterly updates to ORR, Highways England states in the EIMM that it will “...publish an annual efficiency report alongside the Performance Monitoring Statements, that provides details of our efficiency delivered for the year against the overall target”. Highways England’s annual monitoring return will be used by ORR in its annual performance assessment report which will review Highways England’s operational performance, delivery of investment, financial performance, and efficiency during the financial year and cumulatively for the Road Period to date.

RDP contract mechanisms

The DIPs within RDP regional frameworks are incentivised to come up with new ideas and can share examples from other regions. The RDP has a balanced scorecard performance approach that is

linked to the DIP's ability to be awarded future works and ensure that both the DIP & Highways England's interests are aligned. RDP also uses a gain share mechanism, a gain being the difference between budget and total outturn cost. The gain is predicated on cost efficiency and achieving start of works, open for traffic and journey time reliability milestones. 50% of scheme gain is put into a package pot and Highways England reported that it is tracking gain against completion of schemes. Gain is accrued as the project is completed and paid against completion milestones and final accounts. The pain / gain model also incentivises the DIP to search for ways to remove inefficiency and improve productivity.

Highways England has a KPI expectation to achieve £2.23bn capital and operational efficiency savings in RIS2. Note that there is no scheme specific efficiency expectation in RIS2; the expectation for the scheme is simply to achieve the Operational Plan as the Operational Plan is already 'post-efficient'.

The evidence that we have seen includes the A12 Chelmsford to A120 widening scheme which has been presented as a case study to illustrate contract mechanisms including benefits realisation, contract management and efficiency management. These highlight the links between Highways England's Efficiency KPI and contract (scheme) performance. The documents provided as evidence include:

- Outline Business Case
- Project Management Plan
- Efficiency Register
- Stage Management Plan.

Finding 5 - All three contract/programme approaches will contribute indirectly to a significant number of Highways England's KPIs. From the project evidence and our engagement with Highways England we can see the RDP model has a logical contract mechanism to collect performance evidence in its regions and a process that this evidence can be linked back to national business case targets. The evidence we have seen includes RDP national level monitoring of benefits within a balanced score card approach and a regional example (for an A12 improvement scheme) which are aligned to corporate KPIs. The A12 regional scheme example provides a robust process to capture contract performance. The performance of AD contracts will contribute to asset KPIs as well as contributing to safety performance, average delay, network availability and incident clearance. SMA and RDP will also contribute to these latter measures. All three models contribute to road user satisfaction and roadworks information timeliness and accuracy.

C – Can lessons be learned from other sectors and what suggestions could be made to improve contractual models?

Highways England is on a journey with its procurement models and both RtM and AD are steppingstones towards a more collaborative approach to delivery. During RIS2, Highways England's ambition is to develop 'Enterprise Partnerships' for potential use in RIS3 and RIS4. These will provide an opportunity for closer relationship with their suppliers and customers and where investment decisions will be made based on benefit and value by all parties in the partnership against asset driven priorities. The Enterprise Partnership model is further discussed later in this section.

It is evident that Highways England uses its own process of learning lessons and evolving its existing contractual models alongside scanning of UK and international practice to help develop its

contractual approach. This includes the use of all the various procurement methods available to them including Competitive Procedure with Negotiation and Competitive Dialogue. Highways England has also been guided through its involvement of industry initiatives such as Project 13 (further described later in this section) and its membership of the Infrastructure Client Group and collaborates with government and other parties to share best practice and improve delivery. Highways England also works closely with DfT, Network Rail, HS2, Transport for London and others to benchmark its commercial capability and shares its practices for the benefit of these organisations. Our experience of other international road administrations is that they also look around the world to find best practice and Highways England is frequently used as a comparator and as a good benchmark for progression.

Enterprise procurement models

Highways England's procurement strategy is to move away from transactional relationships towards a "High Performing Enterprise" model and adopt the latest best practice published by the ICE "From Transaction to Enterprises", also known as Project 13. Project 13 states that becoming a high performing enterprise is a journey and that there are three stages of maturity:

1. Simple collaboration.
2. Integrated functions and relationships.
3. High performing enterprise.

From our project engagement, Highways England recognises that it is on this journey and that the RDP represents a steppingstone towards the full enterprise partnership. It is evident that Highways England has learnt from CDF and used this to evolve RDP and SMA, and is implementing forward-looking contractual models and actively learning lessons from other sectors. However, there are several steps that Highways England should consider to ensure the success of this approach.

Project 13 is not prescriptive. It is a Framework comprising 5 Pillars underpinned by 16 Principles. How these work in practice depends on the relative features of the organisation, the outcomes to be achieved and their starting points. The success or not of becoming a "High Performing Enterprise" depends on how the model is therefore implemented.

Project 13 has published a practical Commercial Handbook outlining the six key commercial principles which it considers are critical to creating the right commercial environment for the model – including:

1. Alignment – where commercial performance measures are aligned to delivery of outcomes to the customer/end user.
2. Reward – where reward mechanisms in the enterprise structure are based on value added in exceeding the outcomes, not competed lowest cost for a component.
3. Risk – where risks that the infrastructure owner or investor are accountable for are not transferred to the supply chain.
4. Engagement – where the enterprise comes together at a much earlier stage in the asset enhancement/creation lifecycle.
5. Scale – where the enterprise model yields the greatest benefits when applied across asset systems/portfolios.
6. Time – where the relationships between organisations last over a longer time period.

And a four-step commercial strategy:

1. Establishing a performance baseline.
2. Selecting the right enterprise partners.
3. Linking the risk profile to reward mechanisms; and
4. Contracting to support the enterprise.

However, if any of these elements are missing from the commercial environment it risks sub-optimal performance.

From our review of Highways England’s business cases and our engagement there is evidence to show that the current procurement and contracting strategies for the SMA and RDP are aligned to these commercial principles and strategies. And early evidence from the SMA is that there is high level of enthusiasm and excitement from suppliers for the new Alliance model.

There are two key areas necessary for an organisation such as Highways England to achieve its ambition of becoming a high performing enterprise. These are communication and scalability across the sector and supply chain.

Enterprise model communication

The Project 13 Commercial Handbook contains the following:

“Project 13 research highlighted the importance of the commercial model in creating the right behaviours. Transactional commercial models often create divisive behaviours where commercial interests destroy overall programme value. An enterprise approach places more emphasis on the development of commercial models which will create the behaviours required to deliver the programme outcomes. **If the commercial model is going to drive the right behaviours it must be meaningful to the delivery teams.** It will only impact on behaviours if the teams and individuals can see how it relates to them. The focus should be on simplicity and alignment.”

One of the lessons learned from RDP is that on occasions the DIPs reverted to traditional commercial behaviours. This was partly due to the commercial teams on site not fully understanding the model – there was also a disconnect with the DIP commercial teams that were involved in the procurement process. Highways England therefore had to reset and clarify the model. This lack of continuity and cascading of information and understanding has the potential to undermine the best conceived model and contract drafting.

Similarly, during the procurement of the SMA, Highways England had to work hard to articulate to bidders how the model worked and to break the traditional link between turnover and profit levels. According to Highways England this resulted in several “light bulb” moments during the process.

RDP contract model and Project 13

Highways England reported that the RDP contract model has been developed from industry led collaboration with enterprise alliancing models such as Project 13 and through feedback from its Collaborative Delivery Framework model. Highways England is currently deploying and testing various contract models such as RDP, SMA with a view to evolving them to next generation models, and using their lesson learnt process to have robust plans in place to manage and monitor these.

Finding 6 – From the evidence that we have seen, Highways England has adopted many elements of industry good practice in its procurement models and has a pathway to more collaborative and enterprise procurement. It has built on what was good about CDF and used lessons to evolve RDP and SMA. However further procurement evolution will depend on Highways England’s continued internal maturity and the maturity of its supply chain. Highways England is active in industry commercial and procurement groups which provide both a scanning and sharing capability and are viewed as world leaders in the roads sector in terms of contract model types and procurement option usage. From the evidence that we have seen we have concluded that Highways England is able to make the right steps forward with its procurement models at the right time as it brings the industry along the journey with them.

Enterprise model scalability

The SMA is a significant step for Highways England on its maturity journey. As stated above, enthusiasm and energy within the Alliance is perceived to be high. The Alliance runs for a period of 10 years and comprises a single Production Hub Partner and a limited number of Design Partners and On-Site Assembly Partners. This arrangement certainly meets the commercial principles of scale (i.e. across portfolios) and time and maximises the potential for success. However, a disadvantage is that this has the potential to lock out significant elements of the market and concentrate skills, knowledge and behaviours with a small supply base at a time when Highways England is looking to expand its supply base.

It was also stated in the interviews that the organisations that have come forward as Integrators have been the traditional tier 1 contractors whereas Highways England believed that there are opportunities for a more diverse range of organisations to successfully deliver that role.

Several case studies are cited in the Project 13 documentation including:

- Anglian Water
- Yorkshire Water
- TEAM 21
- LUL Bank Station.

These are excellent examples, and it is clear the Highways England is an 'early adopter' and stands to benefit from this learning. However, Highways England has a wider geographical reach, wider portfolio and more disparate supply chain base than these organisations which brings with it some additional challenges.

Finding 7 – Following on from Finding 6, to fully realise the potential of an enterprise model including its effective communication and scalability, Highways England will need to ensure that the lessons learnt from the SMA are disseminated widely and are used to test the maturity of its internal organisation and that of the supply chain. Aspects of the AD model such as asset management in an enterprise form could have equal relevance to future models. Highways England will also need to ensure that its supply chain messaging and communication encourages all tiers to engage in future procurements and service delivery. Specifically, Project 13 identifies that the greatest benefits from an enterprise model can be realised when applied across whole asset networks not just projects (Scale) and when long-term relationships are developed (Time). It is difficult to argue with these concepts but does pose important questions and challenges for Highways England:

1. **Scale:** Highways England operates a geographically widespread asset with a diverse portfolio of programmes, projects and services. Highways England will need to carefully consider the lessons learnt from SMA and adapt them to suit. Other asset owners such as those used in the Project 13 case studies tend to have developed enterprises to deliver projects / programmes in more limited areas.
2. **Time:** Highways England has a very large and diverse supply network. Whilst long-term relationships offer great benefits, it will need to consider carefully how it continues to provide opportunities across the supply chain and in particular to support its stated objectives of widening its supplier base to include more regional, T2 and T3 organisation. The risk is that expertise and experience in delivering enterprises models becomes concentrated and much of the market is locked out.

D – Are the Regional Delivery Partnerships and Smart Motorways Alliance procurement models appropriate for RIS3 and is there a robust review process to facilitate continual improvement?

Regional Delivery Partnerships

Through our engagement with the RDP commercial team, we can evidence that Highways England is using stakeholder engagement and its contract monitoring to start planning for RIS3. Evidence also shows that the RDP model is a potentially successful procurement mechanism to deliver RIS3 using the three-way collaboration between Highways England, the DIP community and Technical Advisors (TA) to share regional practices within a national governance structure that supports continual improvement.

In most areas, Highways England and DIPs are working together well and openly sharing ideas and working together to ensure the right outcomes. The model is structured to allow robust checking and challenge and has regional centres of excellence to share learning and continual improvement. From our industry knowledge some DIP partners appear to like the model and support its possible evolution to a next generation enterprise model. However other DIPs doubt that either Highways England or the DIPs will be sufficiently mature to move to enterprise partnerships. Maturity in both Highways England's internal organisation and in the supply chain is also acknowledged as a prerequisite to an enterprise model by Highways England. Highways England reported that the decision whether to move to an enterprise model has not been made at the time of this review. Options are being considered including a full enterprise model, RDP+ model and others for RIS3. If Highways England is likely to use an RDP + model with some adjustments rather than an enterprise model, the evidence from this project considering the current maturity of both the supply chain and Highways England shows that this approach would appear to be a logical approach for RIS3 based on the findings of this review and the conflicting evidence on the maturity of Highways England and the DIPs.

Smart Motorways Alliance

SMA is based on an alliance model and collaboration between Highways England and three key supply partner organisations: the Production Manager, Design Partners and On-site Assembly Partners. Although these have separate contracts with Highways England the way the contracts are designed are to deliver the SMP programme by a single integrated team with shared objectives and target outcomes. All parties are aligned through incentives and a supporting performance framework, using Digital enabled designers, on site assemblers and a production hub function. It is very early in the process to make an informed assessment but through our engagement with Highways England we can evidence positive signs that this model is likely to prove effective with good alignment between the alliance partners. Although the Stocktake has resulted in an adjusted workflow for SMP schemes, our evidence shows that there is a robust monitoring process in place. We conclude from the evidence that this model is well thought through and already adopts best practice and this is likely to continue to be appropriate for RIS3 delivery.

Finding 8 – Evidence from this project shows that both the RDP and SMA models although different have the potential to be successful and to be suitable for use in RIS3. RDP has the potential to be enhanced into an enterprise model however this will require a sufficient level of maturity within Highways England and the supply chain.

We note that the AD model is based on long term contracts and will extend into RIS3 in broadly its current form, albeit rolled out across all regions.

E – For Asset Delivery what lessons learned from early implementations have been taken onboard?

From our engagement with Highways England and our knowledge of the operations and maintenance industry it is apparent that the primary aims of AD were to better understand the regional network condition and cost base and to take back control of those functions which were considered could be better managed in-house i.e. asset and network management functions. Highways England reported that it has a good process to capture and record lessons learned from each AD contract deployment and these can therefore provide iterative improvements to subsequent contract models. Specifically, Highways England highlighted the following:

- **AD contract iteration** – Highways England uses a detailed lesson learned register after each rollout and a contract development log to review and validate these lessons including discussions with the regions. The Operations AD contract development team then work with Procurement to introduce contract enhancements. Each AD follows a similar contract model incorporating iterative improvements and where necessary Highways England uses the Deed of Variation (DoV) mechanism to incorporate significant changes to contract duties. Since 2016 there have been two DoVs – an AD-wide insourcing of technology from RTMCs, and specifically for the South West to resolve delivery and sustainability issues relating to asset condition at handover. These lessons have been embedded into recent AD contracts and Highways England reported that it has evidence that this risk has reduced as asset knowledge improves. Highways England also reported that through their operational excellence programme OE2025, it includes a review of AD lessons learned and does not plan to issue any further DoV until it has carried out a full benefits assessment.
- **AD contract duration** - Early AD M&R contracts were procured with a duration of 15 years with service break clauses (while DSC and CWF have remained at 5 and 4 years respectively), including the assessment of rate benchmarking. Highways England reported that neither of these two objectives were followed through as their full value was not able to be assessed and these mechanisms have since been removed. The newer AD M&R contracts have an 8-year duration but with no service review period and no rate benchmarking. It is evident that this change was due to the contract mechanism not being able to work rather than as betterment. Highways England reported that notwithstanding that, all contracts are kept under constant review and alongside the OE2025 programme further enhancements and adjustments will be made as deemed necessary.
- **Inherited poor network condition** – During the first years of AD deployment Highways England found that the asset information and the general state of the network that it inherited from service providers previously operating and managing the network was poorer than expected. This meant that when Highways England tendered its specialist Maintenance and Response (M&R) contracts the information given in the tender docs did not accurately reflect what was on the ground. This caused financial sustainability issues for the winning contractors. Through its lessons learned process, Highways England reported that for future contracts it is improving the data given at tender stage that more accurately reflects that on the ground.
- **New contract models** – Highways England provided evidence of its Scheme Delivery Framework (SDF) as an example of how it is improving its procurement of regional delivery suppliers to deliver its RIS2 commitments. SDF will be a £3.3 billion 6-year framework commencing in 2021 that will facilitate an effective transition from RIS 2 to RIS 3. The framework will enable Highways England to deliver maintenance renewals and small improvements in the range of £50k to £20 million. Highways England reported that SDF will provide an opportunity to drive additional efficiency into AD.

Finding 9 – From the evidence we have reviewed, Highways England has a contract improvement process in place to capture lessons learned from each AD procurement through a Contract Change Register. This process is used to identify contract changes and enhance subsequent AD procurement. Highways England can introduce AD-wide changes through Deeds of Variations (DoV) and there is evidence of learning from the change of AD contract length from a potential 15 years to a fixed 8 years.

Highways England provided a robust suite of supporting evidence to demonstrate the lessons learnt and contract changes process which supported the decisions made for subsequent AD procurement improvements.

The project evidence does show that Highways England has introduced lessons learned to overcome the challenge of understanding asset condition at handover and to improve contract financial sustainability for AD suppliers. For example, introducing more rate items into the tender documents to better reflect the scope of services.

F – For Asset Delivery what benefits evidence including regional variance has been realised to date and what further benefits (potential efficiencies) could be achieved?

The above sections have introduced the AD procurement model and the expected contribution of AD to Highways England's RIS2 efficiency target. Highways England has also outlined the largely qualitative, macro-level benefits that it believes AD is delivering and will continue to deliver in the remainder of RP2 and beyond. However, Highways England has described the challenge it faces when attempting to attribute macro-level improvements to the AD model. To date, Highways England has yet to develop quantitative evidence that AD is delivering against its business case ambitions.

AD anticipated benefits

Highways England's operations directorate RP2 spend is £3.6bn (excluding PFI payments) and the embedded efficiency expectation is £228m.

For AD the assumed efficiency contribution will be £102m so 45% of the target.

Highways England plans to improve the evidence base through an overarching AD Case Study to be undertaken later in 2021. The ORR should work with Highways England as it develops their methodological approach to the AD Case Study. To take the evidence to the next level, we would expect that the Case Study should, where available, use quantitative evidence to support claims of efficiency. We acknowledge that attributing improvements to the AD model is a challenging area. However, the fact that regions have been operating under the AD model for some time, whilst others have been operating under the previous arrangements would, at least on the surface, seem to provide an obvious opportunity to explore.

Through our engagement and knowledge of the industry we can see some encouraging statements from Highways England that provide a level of confidence that AD is realising its expected benefits, and these include:

- **AD supply chain relationships** – Highways England now has closer engagement and relationships with a few tier 2 providers in the Construction Works Framework (CWF) community. A key ambition of AD is to build up regional supply chains and through the in-sourcing of key functions including asset management, network management and operations, let smaller specialist contracts to suppliers to encourage tier 2/3 participation. This approach is being extended through the replacement of the CWF with a Service Delivery Framework (SDF) which has benefited from previous maintenance efficiency reviews. Highways England reported that SDF will improve their ambitions in category management, leading to increased AD regional efficiency, and is expecting a good uptake in SDF procurement and the retention of good relationships with specialist SMEs. Highways England also recognises that SDF will require continuation of a national monitoring function as with CWF.

AD supply chain benefits

- A better-informed supply chain can plan better as it has greater awareness of Highways England generated workload over coming years.
- Wider supply chain, enables tiers 2 and 3 to bid, generating keener prices, although this is seen as providing a marginal efficiency improvement when compared for example with improvements in productivity through increased collaboration.
- **Network management improvements** – Through the deployment of AD, at a strategic level in their RP1 annual reporting and RP2 Delivery Plan Highways England has claimed improvements to network management and in customer satisfaction and asset management decision making. However Highways England reported that these claims could be challenging to evidence and to link directly back to the business case objectives at the micro level. This should be considered as part of the forthcoming Highways England case study review into AD benefits realisation.
- **Operational innovation process improvement** - Prior to AD, a proportion of the innovations developed by tier 2 suppliers would be provided to Highways England through tier 1 providers. This meant in some cases a dilution of the value for money benefits and pace which innovations could be trialled and assessed. AD has provided a more direct route from tier 2 providers to Highways England enabling these to be reviewed earlier.

AD tier 2 innovation examples

As examples prior to AD, Carnell's Safety Cam and filter drain scanning initiatives were first introduced through tier 1 contractors when in fact these were Carnell's (a tier 2 provider) innovations. Now, through AD, products such as WJ's road marking removal system is being developed and trialled directly with Highways England.

Finding 10 – From the project evidence and our engagement, Highways England has made several qualitative statements in its RIS2 Delivery Plan about the improvement in supplier relationships arising from AD. This is supported by a limited amount of industry evidence, including from ORR's Supply Chain Strategy report, that regional suppliers value the changes that AD is bringing. Industry has seen good progress made with CWF but not as much progress with the M&R part of AD where Highways England has not been able to attract its target Tier 2 suppliers. Highways England is planning to introduce iterative improvements through changes to its contract suite such as SDF to attract a wider range of Tier 2 and 3 suppliers. It is important that the benefits including efficiency assumptions are baselined and monitored as SDF is

introduced. Highways England has an SDF programme case study which could provide the baseline against which progress is monitored.

With the remaining AD contracts due to be commissioned in 2021 and 2022, by the end of RP2 Highways England has the potential to measure and evaluate the benefits, including efficiencies, of AD contracts of between two and nine years. Given that the benefits of AD are inherently long term there would be an expectation that substantial further efficiencies will be available in RP3 over a significant proportion of the network. There is also an expectation from Highways England that further efficiencies will be accrued from the continuous evolution of the AD contract model (both in small ways and through major changes such as SDF). In the remainder of this section we highlight some possible actions Highways England could take to enhance the benefits of AD.

- **AD benefits monitoring** – AD is acknowledged to be a change model which has a vision of the end state i.e. more control of network management and asset management decisions and an efficient tier2/3 supply chain through contracts such as M&R. Although business cases have been developed for the M&R contracts there is insufficient evidence to show that progress towards the end state is being monitored. This has been seen by some industry providers as Highways England ‘learning on the job’ rather than following through a well thought out plan. Highways England should therefore develop a pathway to continuously assess the benefits for AD during RP2 and into RP3 to be able to measure the full benefits of this transformation.
- **Operational excellence** – Aligned to the rollout of AD is Highways England’s operational excellence transformation programme, OE2025, which commenced in August 2020. This five-year programme is expected to enhance the delivery of regional operations through five themes: planning and programme optimisation, improved control of the SRN, intelligence led predictive maintenance, increasing maintenance productivity and intelligent contracting. It is important for the monitoring and benefits evaluation of AD that the implementation of OE2025 and the resulting benefits including potential efficiencies can be distinguished from each other. For this reason it is recommended that Highways England sets a reliable and consistent operational baseline in each region from which to measure the benefits of AD and OE2025.
- **AD supply chain efficiency** - Highways England could put a process in place with its supply chain to fully review some of the issues that have created a difficult and, in some cases, unsustainable environment for its contractors. These are acknowledged by industry to exist in several AD contracts and include where Highways England has issued a DoV to adjust the contract cost mechanism for labour costs. Highways England reported that they are reviewing the impact of these changes in the early contracts let such as Area 7, 13, 14, 2 and 10 and the robustness of its change process, and there is a particular focus in Area 7 and SW which is a key element of the Intelligent Contracting workstream of OE 2025. This in turn is likely to develop better working practices and more sustainable contracts for both Highways England and its suppliers and lead to increased efficiencies.
- **Wider engagement with tier 2 providers** – In its AD business cases Highways England identified that it wished to develop contracts that would attract tier 2 providers and discourage tier 1 contractors. Our understanding is this has been achieved to a degree with the CWF and with the development of the new SDF contracts, but for the M&R contracts to date Highways England has struggled to attract tier 2 suppliers to tender, albeit we are aware that Highways England did engage with a select few providers. As a result, all M&R contracts let to date have been let to tier 1 contractors. If Highways England wishes to continue with its ambition of attracting tier 2 to participate in AD and more generally on its

procurement journey it could improve this by earlier engagement with the lower tier providers and better understand the market at this level in general. As a further example of market understanding, the recent SDF tender selection exercise which has attracted a lot of interest from tier 2/3 providers had over 200 queries and responses which may indicate good engagement with a new set of suppliers unfamiliar with Highways England or some lack of understanding of Highways England's requirements by providers or vice versa. A win-win outcome would be an upskilled maintenance supply chain operating in a single tier with good knowledge of Highways England's processes and procedures.

- **Performance framework** – Highways England uses the Collaborative Performance Framework (CPF) which was developed for use in major projects and developed by each AD region. However, Highways England and industry do not see CPF as the ideal method of measuring AD performance, principally because the major project suppliers have single source responsibility whereas for AD this responsibility is spilt between Highways England and suppliers. The evidence from this project shows that Highways England understands what potential benefits could be delivered by improving how performance is managed and the better fit of CPF for the AD procurement model.

Finding 11 – Highways England is on a journey of learning from its AD contract models and although we have not been provided with sufficient evidence to allow us to understand if it will be able to meet the objectives of its early AD contract business cases, Highways England has reported that it is carrying out a case study review in 2021. In addition, Highways England has introduced the second phase of its operational excellence transformation programme, OE2025, which commenced in August 2020, to align with RIS2 and ensure achievement of the efficiency target. It is important for benefits evaluation including the modelling of efficiencies that Highways England establishes a baseline for each region to be able to distinguish the benefits accrued from AD and those from OE2025.

Following on from Finding 10, a reference to encouraging tier 2 suppliers into the maintenance contracts was made in Highways England's business case option table as one of the benefits of AD. Highways England acknowledges that this has not been achieved as tier 1 suppliers currently occupy all the M&R contracts let to date. Highways England acknowledge that more engagement is required with tier 2 suppliers to help them understand the M&R contracts models.

Appendix A – Asset Delivery model overview and case study approach

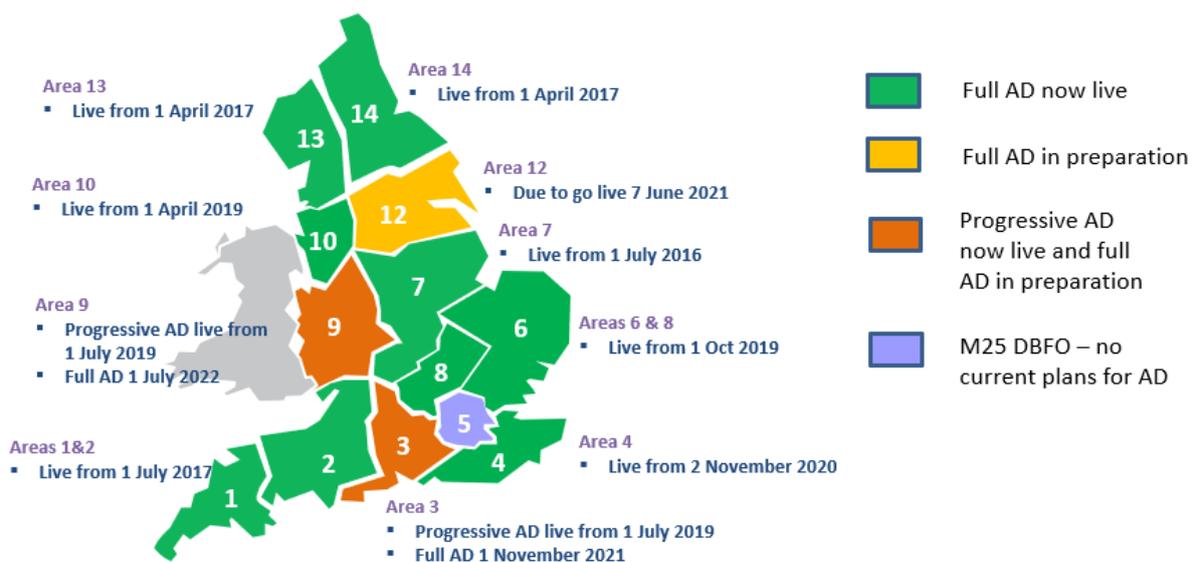
Asset Delivery - Setting the context

The Asset Delivery (AD) model was introduced to the Midlands region in Area 7 in 2016 and since then Highways England has rolled out successive contracts to replace its ASC or MAC contracts.

Figure A1 shows the national rollout programme. Area 4 went live 2 Nov 2020 and the remaining Areas to go live in RP2 will be Area 12 due June 2021, Area 3 due Nov 2021 and Area 9 July 2022. AD is made up of 3 key contracts:

- Maintenance and Response (M&R);
- Construction Works Framework (CWF) – about to transition to Scheme Delivery Framework (SDF) and is the subject of a current procurement; and
- Design Services (DSC) – about to transition to become a works ‘Lot’ in the SDF.

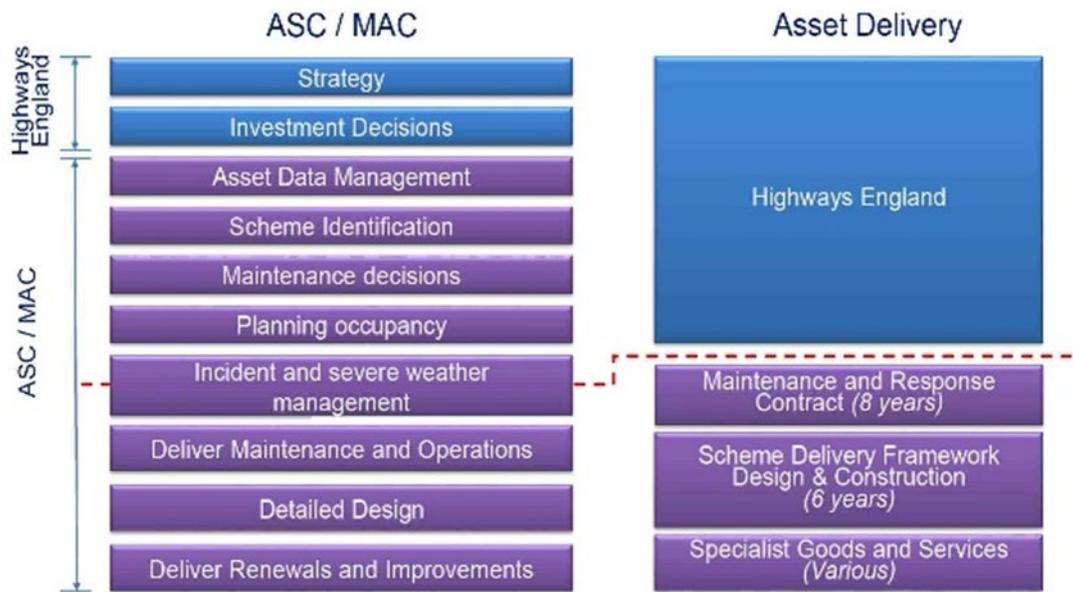
Figure A1 – National AD rollout programme



Since the first rollout of AD in 2016 Highways England has been developing a wider business transformation programme, known as Operational Excellence. AD is a key component of this and a key enabler to many of the improvements and initiatives that are being developed and implemented. However, AD on its own has and continues to provide improvements in the maintenance and operation of the network. Highways England reported it has firm evidence that AD is helping them to meet safety, customer, and delivery KPIs, maintain flat OpEx and deliver CapEx efficiencies within RP1.

The AD has been designed to replace the Asset Delivery Contract (ASC) which in turn had already replaced the Managing Agent Contract (MAC) over the past decade. The shift in responsibility is shown in **Figure A2**.

Figure A2 – ASC / MAC versus AD delivery responsibilities



In the AD OBCs Highways England state it is already seeing significant improvements in network stewardship through better integration of on-road services and refocussing TUPE'd staff capability onto asset need. Improvements in both asset inventory and condition data quality are facilitating a more proactive approach to maintenance. Under AD Highways England carry out inspections themselves. This means that it collects their own data and insight on the needs of the asset to support decisions on what it needs to do to maintain and enhance them. Traffic Officers are undertaking a proportion of safety patrols allowing defects that affect customers to be addressed quickly. This is releasing technical inspectors to carry out more complex inspections and address the backlog of asset condition surveys.

Highways England also stated in their OBCs that it has greater visibility of cyclical maintenance activity such as drainage cleaning, grass cutting and litter collection. Better information transparency is facilitating engagement with their suppliers to improve planning and management of resources. Highways England state this helped them during the winter severe weather to show an improved response in the AD areas compared to the rest of the network. The consensus of Highways England is that in AD Areas their ability to control and gather resources was much improved as was the decision making.

Highways England has also introduced the Progressive Asset Delivery model (PAD) in Areas 3 and 9 and this is primarily designed to introduce a managed gradual transition to the full AD overtime rather than go direct from Asset Support Contract (ASC) to AD in one transition. Area 3 is the subject of a current procurement and Area 9 is expected to be procured by early 2022 by which time the entire Highways England network will be operating under the AD model.

Asset Delivery - Key drivers for change from ASC to AD

The OBCs state that since the introduction of Asset Support Contracts (ASCs), the predecessor to AD, Highways England has learned many lessons which include:

- Asset data collection in the ASC is managed by the service provider. This has led to significant shortcomings in the quality of asset inventory and condition data. This has had a negative impact on the ability of Highways England to make decisions.
- The short-term nature of the ASC does not incentivise the supplier to consider whole life costs for Highways England and the taxpayer.
- The single point of ownership for delivery and inspection duties in the ASC makes it possible for a supplier to avoid providing the desired service level as long as the asset does not fail on their watch.
- Highways England find managing performance of the service providers both resource intensive and difficult under the ASC and the contract has not enabled the levels of innovation that are required to deliver the full requirements of RIS 1 & 2. It also requires a layer of management in both the ASC and Highways England which adds little value.
- Reprioritisation of works is difficult and expensive in the main components of the Area-based contracts under the ASC.

The move to AD was seen by Highways England as a way of improving the quality and flexibility of its operations and maintenance service and to drive the efficiencies needed to meet affordability constraints, providing better customer service and a more resilient network at lower cost. AD is intended to enable Highways England to achieve these goals by facilitating:

- Better asset interventions based on higher quality and more complete asset data;
- Long-term work-planning, considering whole life cost;
- More effective and efficient contractor management; and
- More flexible responses to emerging challenges.

What has Asset Delivery been designed to achieve?

The strategic outcomes and benefits that AD has set out to deliver are:

- Directly control / manage high reputational risks and customer impacts.
- Opportunities to develop collaborative behaviours with tier 2 and 3 suppliers working directly with Highways England.
- Greater understanding of asset data with a flexible performance regime based on improved intelligence about assets and how they behave.
- Improved customer interfaces with Highways England directly managing correspondence with customers, building better knowledge of their needs.
- Delivery of transformational change, demonstrating Highways England as a 'hands on' value adding organisation.
- Highways England building transparent unit cost of maintenance with which suppliers can be challenged providing benchmarking opportunities across supply chain.
- Further efficiencies with incident management through minimising duplication of service providers and the Traffic Officer Service (exact efficiencies are still to be determined but this may include getting Traffic Officers to become 'watchmen' identifying defects).

Furthermore, Highways England has designed several Critical Success Factors (CSFs) that will be monitored to determine the success of the AD model. The CSFs are as follows:

- To improve Highways England ability to make decisions based on asset needs.
- To strengthen Highways England contract management, supply chain engagement and maintenance planning capabilities.
- To deliver improved or equivalent health and safety performance for all road workers and road users.
- To improve network availability and the customer experience.
- To enable us to benchmark cost and productivity information between Areas and suppliers.
- To enable us to build more collaborative relationships with suppliers and foster relationships between them as well.
- To remain within Highways England's Statement of Funds Available (SoFA) for RIS2 and beyond.

Asset Delivery - Commercial and Management cases

AD overview

The purpose of the Commercial Case is to demonstrate that the Preferred Option can result in a well-structured deal, either via a procurement or other means of implementation. Highways England's Commercial Case in each of the AD Business Cases sets out the procurement strategy and details of the new contracts that are designed to support the AD approach.

The AD procurement contracting strategy

The procurement and contracting strategy for the AD model builds upon the HE's Supply Chain Strategy of:

- Building capacity;
- Developing relationships; and
- Delivering performance.

The AD model comprises a mixed economy of Highways England and supply chain resources that separates maintenance for scheme delivery. It consists of:

- Highways England acting as asset owner and decision maker.
- A term maintenance contractor to deliver maintenance and response services.
- Contracts with specialist tier 2 and tier 3 suppliers to deliver schemes.
- Design contracts for schemes.
- Contracts for specialist goods and services required in each Area.

This approach enables Highways England to work directly and collaboratively with the supply chain rather than dealing with tier 1 providers that pass risk down the supply chain, thereby causing a disconnect with the suppliers that do much of the work on the network.

The AD model has been progressively rolled out across the Highways England network, starting with the pilot in Area 7 which went live in July 2016. The model has remained broadly similar but successive Business Cases for the rollouts have identified developments of the model based on lessons learnt and market feedback. Key developments are listed below.

- A reduction in the term of the maintenance (M&R) contracts from 15 years to 8 years. This is on the basis that the 15-year duration was not working as expected. 8 years contracts fit with the pace of change in the sector and with the contractor's depreciation periods for

Equipment. A reduction in the term of the contracts was found to make little difference to the tender prices.

- An increase in the duration of the design contracts. This was to make them more attractive to the market and enable better working relationships.
- An increase in the duration of the capital schemes frameworks to encourage SMEs to invest in bidding for Highways England work by providing greater certainty and visibility of workload. An increase beyond 4 years would have required a dispensation from the Public Contract Regulations.
- Combining the design contract and the capital frameworks into national frameworks to reduce the procurement burden on HE and the market.

AD risk allocation

Highways England has recognised that although the AD model brings opportunity for greater control of the work and the outcomes, it does bring increased operational and commercial risk.

The conditions of contract for each of the various contracts are based on the NEC suite of contracts. This is the suite endorsed by Government and what the market would expect. It is stated that the contracts have been de-risked to enable the delivery of this model.

The contracts use several different payment mechanisms to suit the work required and appropriate risk allocation:

- Maintenance Contracts: A mixture of lump sum, schedule of rates and cost reimbursable.
- Design: Time Charge.
- Construction: Target Cost.

AD market engagement

The Business Cases demonstrate that Highways England has carried out supply chain mapping and run a series of market engagement events and communications to develop the market. The evolution of the contract model is shown in [Table A1](#) and demonstrates the use of lessons learnt and listening to market response.

AD procurement procedure

Highways England has used the Open procedure under the Public Contract Regulations (PCR) 2015. The purpose of this is to make it easier for the market beyond the tier 1 suppliers to compete as it avoids a pre-qualification exercise. The contracts are exclusive to Highways England and are not available for use by other bodies e.g. local authorities. The intention is to limit the value and enable small and medium enterprises (SMEs) to deliver much of the work.

The AD Management Case

The purpose of the Management Case is to demonstrate that the Preferred Option can be successfully implemented and that there are robust processes in place for project delivery.

The AD Rollout is divided into discrete phases:

- Preparation;
- Mobilisation;
- Transition (from Go Live date); and
- Transformation (from Stable Delivery).

The Area 3 Business Case (latest AD rollout) shows that Highways England has implemented an Asset Delivery Programme Governance Structure. The rollout is overseen by an Asset Delivery Steering Group which provides key decisions and governance. A Programme Team is responsible for

delivering the transactional requirements (e.g. contracts) and is headed by a National Rollout Director. A Programme Management Office (PMO) manages the AD programme schedules. It is evident that there is a lessons learned process from previous AD rollout programmes which have led to the development of this Governance over time.

There are Risk Management and Change Management Strategies in place.

Table A1 – Note, this table does not include the Specialist Contracts as smaller spend category and there has been relatively little development in this area

AD Rollout Phase	Maintenance Contract	Design Contracts	Capital Schemes Contracts
Area 7	Single provider. 15 years duration with a 1-year transition period and 3 yearly reviews.	Single provider co-located with HE. 4 years duration.	Multi-lot frameworks direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years duration
Areas 13; 14; 1 & 2	Single provider. 15 years duration with 2 x 6-month transition periods and 3 yearly reviews.	Single provider co-located with HE. 5 years duration.	Multi-lot frameworks direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years duration
Area 10	Single provider. 15 years duration with 2 x 6-month transition periods and 3 yearly reviews. Break clause at year 7.	Single provider co-located with HE. 5 years duration.	Multi-lot frameworks direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years duration
Area 6 & 8	Single provider. 15 years duration with 2 x 6-month transition periods and 3 yearly reviews. Break clause at year 7.	Single provider co-located with HE. 5 years duration.	Multi-lot frameworks direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years duration
Area 12	Single provider. 8-year duration.	National Design Framework with YNE as a lot. 5 years duration.	Multi-lot frameworks procured via a single event with Lots for each region. Contracts direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years plus 2 years duration.
Area 4	Single provider. 8-year duration with potential break clause.	National Design Framework with Area 4 as a lot. 5 years duration.	Multi-lot frameworks procured via a single event with Lots for each region. Contracts direct with T2 and T3 suppliers divided by asset type. Contractor from different lots brought together for schemes. 4 years plus 2 years duration.
Area 3	Single provider. 8-year duration with break clause at year 7	Scheme Delivery Framework: Multiple lotted framework for both design and capital works, carried out as single procurement. 12 lots categorized by asset type and bands with design services to have its own lot. 6 years duration with break at 4 years.	

Appendix B – Regional Delivery Partnerships model overview

Regional Delivery Partnerships Framework - Setting the context

The Regional Delivery Partnership framework (RDP) is intended to provide a delivery vehicle to tackle heavily congested routes and create new capacity and connections to support economic growth and development through modified junctions, road widening, by-passes and large improvement schemes, which had previously been undertaken by the ‘Collaborative Delivery Framework’ (CDF). Highways England forecasted that the total financial commitments made under CDF would reach its headline value of £5bn in December 2018, at which point a new procurement vehicle would be needed. **Table B1** and **Figure B1** show summarises its regional structure and budgets.

Highways England wanted to build on what was good about CDF and learn lessons from those elements that did not deliver the full intended benefit. It received some evidence to suggest that the type of secondary competition processes employed in CDF drove the wrong behaviours across the supply chain. Feedback outlined that suppliers are reluctant to invest in developing new techniques or technology because they do not have confidence that there will be sufficient future work for them to make the necessary return on such investments. Other feedback suggests that suppliers did not have confidence in their own performance to be allocated new work.

Highways England proposed two or more Delivery Integration Partners for each Region each with contractual responsibility for scheme development, design, and construction. Successful suppliers would be awarded a core workload based upon their tender submission.

Table B1 – RDP lot summary

RDP Lot	Budget
Lot 1 – South West & Midlands	£200m
Lot 2 – South East & East	£350m
Lot 3 – North West, North East, Yorkshire & Humber	£200m
Lot 4 – South West	£800m
Lot 5 – Midlands	£1,250m
Lot 6 – South East	£1,100m
Lot 7 – East	£2,800m
Lot 8 – North West, North East, Yorkshire & Humber	£2,000m

Figure B1 – RDP regions



Key drivers for change from CDF to RDP

Highways England states the following as drivers for the change from CDF to RDP:

- CDF reaching its financial ceiling.
- 93 separate schemes within RIP, 82 of these were named schemes within RIS1 with a designated start of works in RP1 and a further 11 schemes for development in RP1 ready for construction in RP2.

- A complex collection of projects.
- CDF not having largely transactional processes which led to supply chain transactional behaviour undermining the concept of collaboration.

What have Regional Delivery Partnerships been designed to achieve?

The key aim of the RDP is to create a collaborative environment whereby suppliers form teams and work closely together to support the objectives. Highways England also expect to recognise significant benefits related to all three of their business imperatives of safety, customer service and delivery. However, the area where it expects to drive the greatest improvement is efficiency.

Highways England defined five strategic outcomes in its strategic business plan that it is determined to achieve:

- **Supporting economic growth** – through a modernised and reliable network that reduces delay, creates jobs, and helps business compete and opens new areas for development;
- **A safe and serviceable network** – where no one should be harmed when travelling or working on the network;
- **More free flowing network** – where routine delays are more infrequent, and where journeys are safer and more reliable;
- **Improved environment** – where the impact of Highways England activities is further reduced ensuring a long term and sustainable benefit to the environment; and
- **Accessible and integrated network** – that gives people the freedom to choose their mode of transport and enable safe movement across and alongside the network.

In addition to this the performance specification sets out the eight key areas by which the government and the strategic roads network monitor will measure both the network and Highways England's performance. These areas are:

- Making the network safer.
- Improving user satisfaction.
- Supporting the smooth flow of traffic.
- Encouraging economic growth.
- Delivering better environmental outcomes.
- Helping cyclists, walkers, and other vulnerable users.
- Achieving real efficiency.
- Keeping the network in good condition.

A range of key performance indicators have been identified for each of these areas with challenging targets being set in all but two and it is these metrics against which the effectiveness of Highways England's delivery during RP1 is monitored and assessed.

Commercial and Management cases

RDP model overview

RDP is the delivery and contracting model designed to replace the CDF (which has reached its capacity) and to precede the development of an enterprise partnership model. This represents Highways England's development and maturity of the collaborative relationships with the supply chain as part of the Supply Chain Strategy.

The RDP comprises

- HE as the Network Owner;
- Technical Advisors (TA) that develop route options during PCF stages 1 and 2, and provide assurance during PCF stages 3 – 7; and
- Delivery Integration Partners (DIP) that deliver schemes under a Design and Build arrangement.

The DIP provides a single point of responsibility and is responsible for the supply chain inputs including designers, specialists, category management, core suppliers. Tenderers are expected to identify their designer and key supply chain partners at the bid stage.

Highways England will additionally input into the appointment of the supply chain via an Integrated Procurement Hub. This approach represents a hybrid model of applying the principles of construction management by allowing the client to influence the selection of suppliers. This will help drive organic growth in the tier 2 market. Highways England has the ability to mandate the use of its category management framework as it evolves.

RDP contracting strategy

Highways England had initially considered the use of 8-year term contracts for the RDP model but decided upon the use of frameworks with a limited number of suppliers to provide greater flexibility.

The TA frameworks will be for 4 years, whereas the DIP frameworks will be for 6 years. The reason for the difference is that schemes spend a period in design before transferring to construction and because the DIP has early input into design and buildability, the duration would need to be longer.

For the TAs, there are 6 Lots aligned directly with the 6 Regions of the RIP.

For the DIP, there are Lots overall divided into 2 Bands:

- Band A (<£100m): 3 Lots
- Band B (>£100m): 5 Lots

This banding is to enable Highways England to target different sized suppliers and open up competition. Band A is aimed at regional medium sized contractors and Band B is aimed at national / international contractors. A contractor bidding for Band B cannot bid for Band A.

A degree of workload certainty will be provided by awarding schemes specific contract under the framework. Future work allocation is based primarily on performance rather than the use of secondary competition. This change was because of feedback and lessons learnt on CDF.

RDP commercial strategy

The RDP commercial strategy is designed to provide incentives via a “triple lock” of financial gain, continuity of work and reputational value.

For the TA, payment will be made on a target cost basis for work on PCF stages 1-5 and on a cost reimbursable basis for PCF stages 6 – 7. The use of a target cost at design stage is to balance the risks of over design and producing multiple unaffordable options. The TA can earn financial incentives at three levels:

- Base incentives for cost savings against the target cost;
- Additional savings for performance e.g. start of works, completion of works, scheme budget; and
- Benefit Cost Ratio of the completed scheme.

The TA contract is based on the New Engineering Contract (NEC4) Professional Services Contract (PSC) as this uses the Schedule of Cost Components and enables defined cost and fees to be separated out.

For the DIP, payments against PCF stages 3-5 will be on a lump sum basis build up from a resource schedule, and payments for PCF stages 6-7 will be on a target cost basis. The DIP can earn financial incentives at two levels:

- Savings against the total of the Prices; and
- Savings against the Scheme Budget.

RDP procurement strategy

Highways England carried out extensive supply chain mapping to ensure that there was sufficient capacity in the market. A staggered procurement approach was proposed to enable the market to respond to the tender opportunities.

The Restricted procurement route under the PCR 2015 was adopted. However, to encourage the participation of SME's the number of suppliers shortlisted at prequalification stage was not capped.

An organisation could not be named as a designer in a DIP's bid and bid for a role as TA in the same Region.

The submissions were assessed based on 80% quality and 20% commercial. The quality submission included a behavioural assessment.

Appendix C – Smart Motorway Alliance model overview

Smart Motorway Alliance evolution/background

The Smart Motorway Alliance (SMA) has been formed to deliver part of Road Investment Strategy (RIS) 1 and RIS2 and RIS3 work. Its members comprise Highways England and six Partners as detailed in [Figure C1](#). The alliance term is a 10-year period where work can be instructed, with a subsequent run-off period to complete any work instructed during the core period which may include propriety work for RIS4.

Figure C1 – Smart Motorway Alliance delivery model

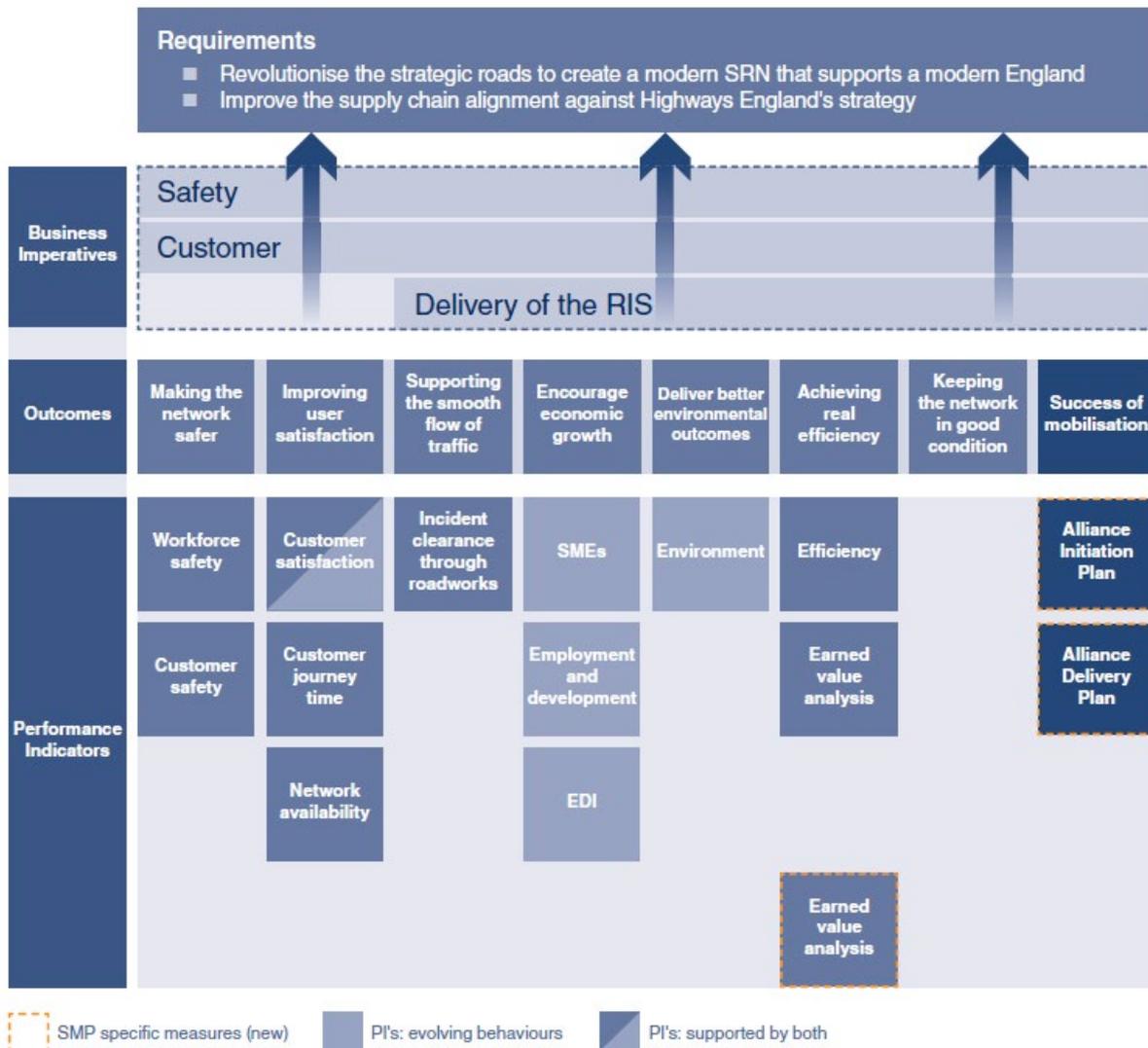


Diagram 2: Alliance Delivery Model

The role of Highways England as a ‘thin client’ is to provide strategic client leadership to the Alliance. Highways England is a member of the Alliance Board, which is responsible for leading and delivering Alliance strategic outcomes. The Alliance Board also manages the performance of the Alliance which will be assessed against a suite of performance indicators aligned to outcomes and the three Highways England strategic imperatives. The performance framework is shown in [Figure C2](#).

Figure C2 – Smart Motorway Alliance performance framework

Diagram 3: **Balanced scorecard and Highways England's targets overview**



Smart Motorway Alliance - Setting the context

The Smart Motorways Programme (SMP) is designed to increase lane capacity on Highways England's strategic road network through embedding roadside technology and converting hard shoulders to all-lane running.

Highways England undertook a procurement options exercise where four options were considered. Collectively, the Economic and Non-Economic appraisal of the options has been predicated on their ability to achieve Highways England's strategic imperatives and achieve outcomes that would address the challenges inherent in the industry.

The Alliance model was considered the best option, this would require Highways England and key supplier resources to collaborate in one organisation aligned to common objectives for delivering SMP.

Smart Motorway Alliance - Key drivers for change

The SMP programme of works had previously been procured through the Collaborative Delivery Framework (CDF). This vehicle had reached its financial limit.

In addition, successive government and industry reports had identified the need for more collaborative and integrated working, more continuous improvement and innovation, and the elimination of duplication.

What has the Smart Motorway Alliance been designed to achieve?

The Alliance Model contract is the contract solution chosen by Highways England to deliver Highways England’s entire Smart Motorways Programme going forward. Partners that will make up the Alliance with Highways England are One Production Management Partner, Two Digitally – Enabled Design Partners and Three On-site Assembly Partners. These Partners are to work collaboratively and achieve the aims set out below in [Figure C3](#).

Figure C3 – Smart Motorway Alliance aims

Diagram 1: The Alliance aims



Note that Highways England will also adopt a 2-stage mobilisation approach comprising of Accelerated and Full Mobilisation. This approach to mobilisation has been tailored to allow longer periods for mobilising new schemes (Full Mobilisation), and a shorter period for schemes transitioning from RIS1 (Accelerated mobilisation). Highways England has planned for four months of mobilisation work that pre-dates the starting of the Alliance for Full Mobilisation to allow sufficient time for the Alliance to be established. Details of these two approaches are:

- i. **Accelerated Mobilisation:** This first stage comprises only the critical activities needed to support timely commencement of schemes shortly after contract award and requires input from all Alliance members. This stage will be utilised to support transition of RIS1 schemes into the Alliance.
- ii. **Full Mobilisation:** This is the broader and long-term mobilisation stage, which covers all activities. It will create the foundation for the Alliance to establish itself and mature over future years, which includes the realisation of benefits.

SMA Commercial and Management cases

The SMA contracting strategy

The contracting strategy for the SMA is a 10.5-year Alliance contract between Highways England and six “best in class” suppliers divided into Lots as follows:

Lot	Number of Suppliers	Regions	Role
Production Hub Partner	1	National	Integrated planning and programme
Design Partners	2	North and South	Develop standardised and integrated designs
On site Assembly Partners	3	North, South, Midlands	Construction including off site manufacture

The Alliance partners work together to deliver the SMA programmes under a single multiparty contract based on the NEC4 Alliance Model. Each partner has its defined role, but all expected to work together to plan and deliver the programme collectively. All partners and Highways England provide resources to the Production Hub, a centralised resource to manage delivery.

The 10-year term of the Alliance model was chosen to address several issues:

- Deal with budget flexibility;
- Enable supply chain investment;
- Achieve cultural alignment in the Alliance;
- Increase market capability;
- Develop standardisation; and
- Address skills shortages.

The SMA commercial model

The commercial model is designed to break the traditional link between increased contract turnover and increased fee. Payments to partners are linked to performance against a single programmatic budget, thereby incentivising the partners to deliver against Highways England’s overall objectives.

Highways England has developed an Alliance Budget Pricing Model (ABPM) which uses transparent and historical outturn cost data from HE’s estimating cost database. The ABPM is then used to set the budget for schemes.

The partners are paid their defined cost to manage and deliver the programme plus a reduced fee to cover elements of profit, corporate overhead and local overhead (this a departure from the NEC Schedule of Cost Components). In addition, incentive payments are made on a pain/gain basis depending on whether the outturn costs exceed or are less than the budget set by the ABPM. This is like a target cost contract but at a shared programme level. This incentivises the partners to work together and make a greater return by reducing scheme costs rather than increasing scheme costs.

Highways England controls the Specification which must be adhered to prevent margins being increased by reducing the quality.

SMA procurement strategy

SMA suppliers were procured using the Competitive with Negotiation Procedure under the PCR 2015. This route was chosen as a negotiation phase was crucial to align the tenderers with the delivery model and the commercial model as these are fundamental to the operation of the Alliance.

The procurement took place in successive phases. Tenderers were required to submit separate quality and commercial submissions. Tenderer's quality submissions were first assessed and only those meeting defined thresholds were further shortlisted. This was designed to ensure that only the leading quality bids were taken forward. Commercial submissions were checked for compliance but were not scored at this initial stage.

The commercial submissions were evaluated and tested at the negotiation phase. They formed the primary focus for the final tenders. The commercial submissions were required to provide a range of commercial and pricing data to populate the ABPM. This included an assessment and mitigation of the top five risks and top five opportunities.

The quality and the commercial submissions were combined in the ratio of 70% to 30% to identify the most economically advantageous tender (MEAT).