

# Highways England Procurement Capability Review

December 2017

prepared by



supported by



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## Review Team Members

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## Acknowledgements

With thanks to the following organisations and people that provided information and views that have assisted the Review Team:

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- Richard Coates
- Gordon Cole
- Colin Hudman

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Civil Engineering Contractors' Association (CECA):

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Specialist Engineering Contractors (SEC) Group:

- Rudi Klein, Chief Executive Officer

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## 0. Executive Summary

### 0.1. Introduction and Background

0.1.1 This independent review of Highways England's procurement capability has been jointly commissioned, overseen and funded by Highways England and the Office of Rail and Road (ORR). It forms part of the current work on the development of the second Road Investment Strategy (RIS2). ORR is working with Highways England to develop a shared understanding of the key enablers of future efficiency improvement and as part of this work three core business processes are being assessed:

- portfolio and programme management;
- asset management; and
- procurement.

0.1.2 The scope of this procurement capability review covers four specific areas:

- Service Area 1 - to assess the company's current procurement capability;
- Service Area 2 - to assess improvement plans the company has to improve capability by the end of RP1;
- Service Area 3 - establish an improvement trajectory for the company's capability to the end of RP2; and
- Service Area 4 - determine the scope for efficiencies from improvements to Highways England's procurement capability in RP2.

### 0.2. Initial Review of Highways England Procurement Capability

0.2.1 Highways England has achieved the CIPS Standard level accreditation for its procurement capability and this has provided the starting point for this review. At that level, the CIPS process focuses on the presence or otherwise of the basic building blocks required for robust procurement. The Review Team considers that the CIPS assessment needed to be supported by further assessments to fully test the appropriateness and effectiveness of Highways England's procurement methods. The approach adopted was:

- a review of the CIPS assessment report to pick out any issues raised including any potential areas for improvement identified by the assessor (see Section 3);
- an assessment of the improvements being implemented by the Commercial and Procurement (C&P) Directorate through its Evolution programme (see Section 3);
- the identification and assessment of typical inefficiencies found in the delivery of infrastructure projects that can arise from procurement related activities. The assessment has considered the potential degree of inefficiency that could arise in terms of capital and resource costs. It has also assessed where Highways England are positioned in relation to these potential inefficiencies to identify possible priorities for review (see Section 4);

- a comparison of the alignment of Highways England's procurement strategies with recognised good procurement practice as assessed by the Review Team who have undertaken a review of Government advice, industry reports and academic studies (see Section 5);
- validation of the assessments undertaken by the Review Team by obtaining feedback from the industry on their views on Highways England's procurement methods and procedures (see Section 5); and
- holding meetings and interviews with key members of the C&P Directorate.

0.2.2 The main findings in relation to the Review Team's assessment of the CIPS accreditation report and the effectiveness of the Evolution improvement plans to date, as set out in Section 3, are:

- a) The Review Team strongly commends the work in progress to evolve to a matrix management type of structure.
- b) The C&P Directorate should continue to implement its plans for a more integrated, matrix management organisation to support early engagement and maximise commercial support to the delivery teams.
- c) Consider benchmarking resources and organisational structures with other organisations involved in the procurement of major infrastructure programmes
- d) Consider developing a unified Highway's England Procurement Policy and overarching Strategy document to give greater clarity to internal teams and external suppliers and to support more consistent approaches.
- e) Clarify the status of the 2009 Highways Agency Procurement Strategy, which is still available on Highways England's website and is described as its latest procurement strategy.
- f) Review conflict of interest procedures to ensure that associated risks continue to be effectively managed.
- g) Review requirements of key procurement roles to ensure role holders have necessary skills and access to best practice and lessons learnt from other programmes and sectors.
- h) Review Highways England's requirements for the skills and experience of contract managers and consider NEC accreditation of key post holders where appropriate, and provide NEC training tailored to Highways England's requirements.
- i) Review governance procedures and delegations to ensure they are clear and efficient and do not result in unnecessary delay and/or inappropriate process.

### 0.3. Typical Causes of Inefficiency and Good Procurement Practice

0.3.1 The review has identified in Section 4, typical areas of inefficiency that can occur in infrastructure related procurement. Highways England should consider these typical

inefficiencies, taking account of the priorities identified by the Review Team, and act where necessary to reduce the risk of the inefficiencies occurring in its procurement activities:

- a) Consider more focused dialogue with the supply chain at earlier stages in the development of procurement strategy and plans to achieve better alignment of suppliers with Highways England's objectives and approaches.
- b) Consider opportunities to further develop the potential benefits from long-term contractual arrangements which offer continuity of work for the best performing teams.
- c) Ensure a strong focus on the benefits of early contractor involvement and the supply chain in the development of project and programme proposals.
- d) Seek to simplify pre-qualification and tender procedures to support maximum competition by reducing tendering and evaluation costs.
- e) Ensure that effective collaboration on project delivery is supported by appropriate contractual incentives and a collaboration framework covering the whole supply chain, focussing on delivery to budget and critical success factors.
- f) Ensure that design development strategies remove barriers to innovation and do not result in duplication of work at contract transition stages.
- g) Review incentivisation arrangements to ensure they are fully aligned with Highways England objectives, and that where appropriate they extend into the supply chain and agile incentivisation to deal with issues that emerge during delivery.
- h) Review contractual mechanisms and procedures for measuring and recording efficiency improvements delivered by the supply chain.
- i) Develop the use of independent assurance procedures at key procurement stages to support the delivery of best value and to help ensure compliance with policy and Regulations.
- j) Review project record requirements (especially in relation to tender evaluation, moderation and feedback) to ensure they are adequate to defend against the risk of a successful procurement legal challenge.

0.3.2 As set out in Section 5, the Review Team considers that Highways England's procurement strategies and processes adopt many elements of industry good practice. However, we believe there are further opportunities for further improvement. Highways England should consider the assessment undertaken by the Review Team and seek opportunities to develop the alignment of its procurement strategies with recognised good practice. The Review Team considers that particular opportunities may be identified in relation to:

- Developing longer-term relationships with strategic partners.

- Developing further opportunities for the early involvement of the supply chain in the development of projects and in identifying innovative approaches.
- Developing the effectiveness of incentives and contractual mechanisms to support collaborative relationships.
- Minimise the direct cost of procurement to maximise competition.

#### 0.4. Findings on Service Area 1 - Highways England's Current Procurement Capability

0.4.1 The Review Team's analysis indicates that Highways England has established a good level of procurement capability. This is initially demonstrated by its achievement in obtaining the CIPS Standard Level of Accreditation and further supported by improvements delivered through its Evolution programme.

0.4.2 In relation to contract management which is part of Highways England's overall commercial function, the Review Team considers that:

- both Highways England and its supply chain are well experienced in NEC and we expect this will generally be of a relatively high standard;
- Highways England should ensure that its contract management training arrangements are effectively tailored to address the specific requirements of their contracts, and support the development and management of appropriate collaborative relationships with the supply chain;
- avoiding the use of non-standard clauses will reduce the risk of contract management issues;
- the use of strong incentivisation to deliver to time and budget (as recommended in our report) will ease contract management;
- the new approach to maintenance, where Highways England will be taking a more hands-on approach by managing many more tier-2 suppliers will be a challenge for its contract management resources; and
- it will greatly ease contract management if promises made at time of tender are transferred into the awarded contract, to provide certainty and clarity both for contract managers and contractors.

0.4.3 The ongoing C&P Evolution improvements have already delivered important benefits. The C&P Directorate has been able to work more closely with other business areas and influence procurement planning at an earlier stage. As a result of the improvements made by the C&P Directorate, the Review Team considers it very likely that that capability has progressed beyond the CIPS Standard Level of Accreditation.

0.4.4 The CIPS capability assessment has been supplemented by an analysis of typical inefficiencies that can occur in the delivery of infrastructure projects from procurement related activities. The Review Team considers that Highways England's methods are well developed with a good degree of mitigation in many of the areas of typical inefficiencies. It is considered however, that there are areas where capability is still

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maturing and further improvements in these areas will lead to increased efficiency in the future as described in the sections on Service Areas 2 to 4.

- 0.4.5 The assessment of procurement capability has been considered further by a comparison of Highways England's methods with recognised industry good practice. The Review Team considers that Highways England is adopting many elements of industry best practice in its procurement strategies and methods. There are some areas however, particularly around the development of long-term collaborative relationships, where further improvements can be expected over the coming years as the C&P Directorate's Evolution programme matures.
- 0.4.6 Feedback from the industry is considered to support and validate the findings of the assessments undertaken by the Review Team.

### 0.5. Findings on Service Area 2 - Capability Improvement Plans to the end of RP1

- 0.5.1 The Review Team's analysis provides confidence that during the remainder of RP1 there will be ongoing improvement in capability as a result of the Evolution programme. This developing maturity should support improved productivity, additional efficiencies in project delivery based on improved procurement strategies and procedures, and enhanced commercial support to contracts delivered during RP1. These improvements will support the delivery of the RIS1 efficiency target.
- 0.5.2 The Review Team is of the view that Highways England has clearly moved forward from the CIPS Standard level accreditation. If Highways England does decide to seek Advanced Standard accreditation, then around the end of RP1 would appear to be a good time for an application.
- 0.5.3 In relation to the delivery of the £1.2bn RIS1 overall efficiency target the Review Team considers that its commendable that Highways England is ahead of programme in delivering the efficiency trajectory but notes that it still leaves the bulk of the overall efficiency savings to be found over the remainder of RP1.
- 0.5.4 It is not within the scope of this review to audit or assure those predictions (especially given they relate to overall efficiencies, not just procurement efficiencies). However, based on the information provided to us it seems likely that the £1.2bn efficiency target over the RP1 period is achievable with continued focus and tenacity.

### 0.6. Findings on Service Area 3 – Potential Capability Improvements to the end of RP2

- 0.6.1 It can be expected that further organisational and procedural improvements will be supported during RP2 by the enhanced capability that is now being developed. The Review Team believes that Highways England has the leadership and is developing the capability to deliver more effectively and efficiently during RP2 which will also have benefits for the planning and delivery of RP3.
- 0.6.2 Opportunities for improvement and efficiency during RP2 will include:
- careful and ongoing consideration of the typical areas of inefficiency that can occur on infrastructure related procurements set out in Section 3 of this report;

- maintain close collaboration with other leading infrastructure clients to share lessons learnt and good working practices and to build these into new strategies and plans as opportunities arise;
- the development of more effective long-term collaborative relations with suppliers identified as key strategic partners;
- improved clarity of procurement policies and strategies to ensure full alignment of the supply chain with Highways England's corporate objectives; and
- making supplier engagement and early contractor involvement even more effective through better dialogue on the full range of issues affecting the market.

0.6.3 Highways England should ensure that it is well prepared for opportunities that will arise during RP2 for the procurement of major programmes of work which will follow the conclusion of existing contractual arrangements. This should include being well prepared for any innovative procurement approaches that may be used such as new alliance models.

0.6.4 Highways England should also keep key strategic risks under review which could impact on procurement and delivery strategies. These could include the risk of losing key staff to other major programmes; issues arising from Brexit; and issues related to possible technology developments.

#### 0.7. Findings on Service Area 4 - Scope for Efficiency Gains from Capability Improvements during RP2

0.7.1 Taking account of all the data collected; the evidence studied; our assessment of the capability and maturity of Highways England's procurement organisation; the opportunities to address the identified typical inefficiencies and to further align with recognised good practice; and the identified uncertainty in the measurement and quantification process, the Review Team considers that capital cost efficiency savings in the range of 6% to 9% enabled by procurement capability improvements could potentially be realised during RP2.

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## 1. Introduction

### 1.1. Purpose

1.1.1 This review has been jointly commissioned, overseen and funded by Highways England and the Office of Rail and Road (ORR). The purpose is to undertake an independent assessment of Highways England's procurement capability. It forms part of the current work on the development of the second Road Investment Strategy (RIS2). RIS2 will set out the funding and performance requirements for Highways England during Road Period 2 (RP2), the five-year period from April 2020 to March 2025.

1.1.2 The development of RIS2 requires the coordinated efforts of the Department for Transport (DfT), Highways England and ORR, with each organisation having responsibility for leading relevant work streams. Highways England is responsible for developing a strategic business plan (SBP) detailing its plans for delivering the performance requirements set out in the Government's draft Road Investment Strategy. The SBP will include a proposal for the delivery of efficiencies. ORR has responsibility for undertaking an Efficiency Review of Highways England's SBP and assessing whether it is challenging and deliverable with the proposed financial resources, including the proposed level of efficiency.

1.1.3 A core part of the work to develop Highways England's SBP and ORR's efficiency review is the assessment of Highways England's ability to make improvements to its core business processes during RP2. ORR is working with Highways England to develop a shared understanding of the key enablers of future efficiency improvement. Highways England and ORR have agreed to jointly assess three core business processes:

- portfolio and programme management;
- asset management; and
- procurement.

1.1.4 The key objective of this review is to determine the extent of the efficiencies that Highways England could aim to make through improvements to the way it conducts its procurement activity during RP2. The approach to the review has been to focus on the capabilities that will be required for Highways England to secure efficiency gains and the pace at which they can be realised.

1.1.5 With around 85% of Highways England's expenditure being delivered through its supply chain, the expertise and care with which Highways England packages, procures and manages its contracts, will be a significant enabler to unlock future cost savings.

### 1.2. Scope of Review

1.2.1 The scope of this capability review covers four specific areas which were set out in the Brief for the review as follows:

- **Service Area 1 - to assess the company's current procurement capability**  
To underpin the assessment of Highways England's ability to make improvements to its procurement capability, the company already has internal and external assurance in place regarding its procurement capability including

an internal audit and independent accreditation through the Chartered Institute of Purchasing and Supply (CIPS). The review should make use of this evidence (not duplicate) in assessing current capability. It may be helpful to understand and carry out a light touch review of the end to end process of procurement of one Major Projects contract, one Operations Directorate contract and the programme for delivery of Routes to Market - the programme that will deliver the contractual vehicles for the remainder of Road Period 1 (RP1) and RP2.

- **Service Area 2 - to assess improvement plans the company has to improve capability by the end of RP1**

To underpin the assessment of Highways England's ability to make improvements to its procurement capability in RP2, it is essential to assess the improvements that the company intends to deliver to the end of RP1. The second part of the study should examine; what plans Highways England has in place to improve its procurement capability and capacity and, the quality of those plans to make the required capability improvements, and the likelihood of these plans being delivered within RP1.

- **Service Area 3 - establish an improvement trajectory for the company's capability to the end of RP2**

Building on parts (1) and (2) of the review project, to assess the need and ability of Highways England to make further improvements to its procurement capability in RP2, and beyond, if appropriate.

- **Service Area 4 - determine the scope for efficiencies from improvements to Highways England's procurement capability in RP2**

The final part of this study will determine the potential level of efficiency improvement that can then reasonably be expected from improvements to Highways England's procurement capability during RP2.

1.2.2 The scope for this review, issued by Highways England and ORR, defines the procurement process by the following eight steps:

- initiate project;
- identify needs and analyse the market;
- specify requirements;
- plan approach to market and evaluation;
- approach market and select supplier;
- negotiate and award contract;
- manage contract and relationships; and
- review.

### 1.3. Review Methodology

1.3.1 This review has made use of existing evidence in assessing current capability and, in accordance with the Brief, has not sought to duplicate the CIPS assessment. It has looked, however, at the CIPS assessment comments to identify any potential areas for improvement. The Review Team is of the view that the CIPS Standard level accreditation provides a good starting point for the assessment of procurement capability, but it is somewhat generic, focusing on the presence or otherwise of the basic building blocks for robust procurement. It needs to be supported by other

methods to test the appropriateness and effectiveness of procurement policies, strategies and methods relevant to the construction sector in which Highways England operates.

1.3.2 The review has sought to make best use of the extensive experience of the Review Team (summarised in Appendix N), and data collection and analysis (interviews, surveys, document reviews), to provide a rich understanding of Highways England's position on procurement. The main elements of the methodology are set out below:

- as far as possible aligning the different elements of the review with the CIPS assessment and accreditation processes;
- seeking to ensure that the review is underpinned as far as possible by evidence and good practice;
- supporting the CIPS assessment of procurement capability by:
  - the identification and classification of typical procurement inefficiencies which are used to give insight into Highways England's capability and to allow it to consider potential areas for improvement;
  - identification and detailed analysis of good practice from industry reports and Government guidance, together with academic evidence which has been clustered into themes. This is to support a comparison of Highways England's procurement methods with good practice.
- assessing the improvement plans of Highways England's Commercial & Procurement (C&P) Directorate as set out in its Evolution programme, which is part of Highways England's wider corporate culture change programme;
- reviewing the background to Highways England's efficiency plans and progress to date;
- reviewing Highways England's procurement strategies and plans for the delivery of the major work programmes, as part of the determination of the scope for efficiencies;
- interviewing a representative range of Highways England's senior commercial and procurement representatives;
- securing candid feedback from the Highways England supply chain, by way of a questionnaire and workshop with senior industry representatives facilitated by the Civil Engineering Contractors' Association (CECA), and also from the Specialist Engineering Contractors (SEC) Group;
- assessing the future trajectory of the C&P Directorate's capability to support further improvements;
- identifying potential main areas for improvement which may give rise to efficiency savings or act as enablers for efficiency; and

- assessing the scope for efficiencies from improvements to Highways England’s procurement capability in RP2.
- 1.3.3 The Brief suggested that it may be helpful to carry out a light touch review of the end to end process of procurement of one Major Projects contract, one Operations Directorate contract and the programme for delivery of Routes to Market. The Review Team was supplied with process maps which were examined. However, given the complexity of the end to end procurement process, it was felt that a ‘light touch review’ of these processes would be rather superficial, and unrepresentative of Highways England’s capability and the enhancements that are being rolled out. Instead, with HE/ORR agreement, we interviewed a representative range of senior procurement and commercial staff to inform the work and conclusions of this review. This covered senior staff involved in each of the various contracts mentioned in the Brief.
- 1.3.4 The culmination of the Review Team’s assessment against the four Service Areas is given in Sections 6 to 9 respectively. However, much of the detailed review and analysis is set out in the preceding sections 3 to 5, including a review of Highways England’s CIPS Accreditation Assessment, typical causes of procurement inefficiency, academic research, good procurement practice, and industry feedback..
- 1.3.5 The findings of the Review are summarised for each of Sections 3 to 5 and in the findings for each of the four Service Areas covered by the Review.

## 2. Background to Highways England

### 2.1. Role and Funding

- 2.1.1 Highways England Company Limited is a corporate body established on 8 December 2014 as a company wholly owned by the Secretary of State for Transport. It was appointed as a strategic highways company by way of an Order made by the Secretary of State pursuant to section 1 of the Infrastructure Act 2015 (the Act).
- 2.1.2 Highways England is tasked by the Act with delivering the *Road Investment Strategy (RIS)* set by the Secretary of State, and to prepare and publish route strategies as directed by the Secretary of State. Highways England carries out its functions in accordance with directions and guidance given by the Secretary of State. These are set out in Highways England’s Licence from Government.
- 2.1.3 ORR is responsible for monitoring and enforcing the performance and efficiency of Highways England. ORR’s highways role has been established to place a greater level of scrutiny on the company than has been the case in the past. ORR holds Highways England to account for its management of the strategic road network – including delivery of performance and efficiency. ORR also advises the UK Government on the levels of funding and performance requirements for future road periods to help frame challenging and deliverable performance and efficiency requirements. As set out in the introduction, this Review has been commissioned jointly by Highways England and ORR.
- 2.1.4 Highways England is funded from the public purse by grants-in-aid from DfT. One of the key reasons for establishing Highways England as a Government-owned company is to provide it with a five-year funding allocation which is not subject to the normal

constraint of annual budgets and stop-start spending. The five-year allocation is set out in the RIS Statement of Funds Available (SOFA) and, allowing for formally agreed changes, has increased from the original sum of £11,351m and now totals £12,161m of capital expenditure across RP1. The original allocated funds are summarised in Table 2.1. This total five-year fixed capital settlement from the Government includes all funds that Highways England will use to enhance and renew England’s strategic road network. Resource funds required to operate the network are set out in the Government’s Resource Delegated Expenditure Limit (RDEL).

<b>Table 2.1 Allocation of Capital Funds Road Period 1</b>						
<b>Totals</b>	<b>Allocated Funds</b>					
	<b>Year 1 15/16</b>	<b>Year 2 16/17</b>	<b>Year 3 17/18</b>	<b>Year 4 18/19</b>	<b>Year 5 19/20</b>	<b>Road Period 1</b>
Modernise / Enhance	1,064	1,101	1,509	1,789	2,230	<b>7,693</b>
Maintain / Renew	718	726	732	738	744	<b>3,658</b>
<b>Total Capital</b>	<b>1,782</b>	<b>1,827</b>	<b>2,241</b>	<b>2,527</b>	<b>2,974</b>	<b>11,351</b>

## 2.2. Business Planning

2.2.1 The RIS for the 2015/16 to 2019/20 Road Period is set out in three parts:

- Part 1: Strategic Vision
- Part 2: Investment Plan
- Part 3: Performance Specification

2.2.2 The Performance Specification sets out the Government’s expectations for Highways England and the strategic road network that it operates, maintains and modernises. This consists of more than 4,300 miles of motorway and major A roads, including a highly complex asset base of more than 16,000 structures, 21,870 lane-miles of pavement, and 110,000 technology assets.

2.2.3 DfT expects Highways England to align its objectives with the Performance Specification, which draws on specific aspects of Government’s long-term vision for the network. The Performance Specification details eight areas on which Highways England must focus:

- 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 of the network;
- achieving real efficiency; and
- Keeping the Network in good condition.

2.2.4 Highways England's *Strategic Business Plan (SBP)* published in response to the RIS sets out its main activities, the required strategic outcomes and describes how it will deliver the *Investment Plan* and meet the *Performance Specification*.

2.2.5 Highways England's *Delivery Plan* builds on the SBP, setting out in detail how Highways England will deliver its five strategic outcomes, which are set out below:

- Outcome 1 – supporting economic growth;
- Outcome 2 – a safe and serviceable network;
- Outcome 3 – a more free-flowing network;
- Outcome 4 – improved environment; and
- Outcome 5 – an accessible and integrated network.

2.2.6 The five strategic outcomes are supported by four Key Enablers, which can be summarised as follows:

- Key Enabler 1 – delivering performance and efficiency;
- Key Enabler 2 – managing risk and uncertainty;
- Key Enabler 3 – people and company; and
- Key Enabler 4 – collaborative relationships.

The Review Team firmly believes that procurement and contract management capability is a key aspect of all four Key Enablers.

## 2.3. Organisational Structure

2.3.1 Highways England's executive structure is shown in Figure 2.1.

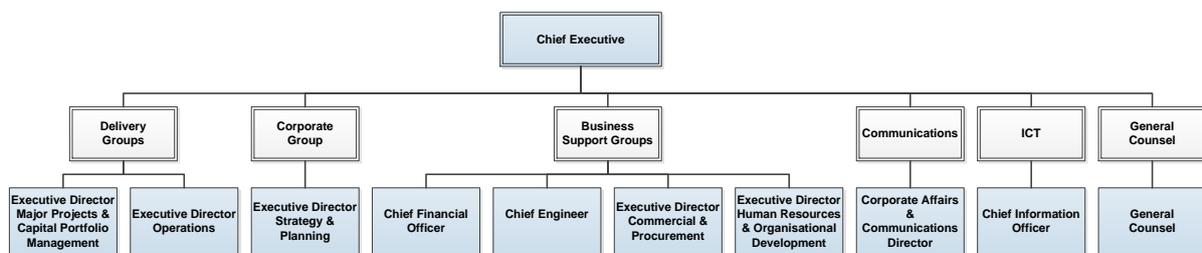


Figure 2.1 - Highways England Executive Structure

2.3.2 The C&P Directorate is headed at executive level by David Poole, Executive Director, Commercial and Procurement, which has developed to a structure based on five functional groups as follows:

- Supply Chain Strategy;
- Procurement;
- Commercial;
- Commercial Services; and
- Customer Services.

- 2.3.3 Each functional group has a functional head who is responsible for developing the function to support the business and managing the people within the group.
- 2.3.4 In 2016 the C&P Directorate commenced the implementation of a major change process known as the Evolution programme. As part of Evolution, C&P Business Partners have been appointed for each major programme of work, i.e., the Complex Infrastructure Programme (CIP), Regional Investment Programme (RIP), Smart Motorways Programme (SMP), and Asset Delivery (AD) covering maintenance renewal contracts.
- 2.3.5 The C&P Business Partner role is accountable for delivery. The role is responsible for co-ordinating the resources within C&P that are required to support the programme of work. The role is not a technical procurement role and does not carry any procurement delegations.

## 2.4. Efficiency, Effectiveness and Progress in RP1

- 2.4.1 As part of RIS, the Government requires Highways England to deliver at least £1.212 billion in efficiencies over RP1 to reinvest in the network. This represents one of the 8 key performance indicators (KPIs) set in the *Performance Specification* that will determine Highways England's success over RP1. RP1 efficiency savings are part of Highways England's commitment to deliver total efficiency savings of at least £2.6bn over the ten years to 2025.
- 2.4.2 The definition of efficiency, and the processes for reporting it, are contained within Highways England's *Efficiency and Inflation Monitoring Manual*, which was published in September 2015.
- 2.4.3 Government also set a target that Highways England should meet or exceed the expectations set out in the Delivery Plan. Highways England's effectiveness will be assessed by the extent to which the five strategic outcomes referred to in 2.2.5 are achieved with the funding available.
- 2.4.4 The Chief Executive is accountable for delivering the KPI efficiency target, and collective responsibility is through the members of the Highways England Executive. Highways England has separated out the overall efficiency target and annual milestones to a programme level. Relevant targets are also included in the personal targets of divisional directors and are linked to performance related pay. The current approved breakdown is shown in Table 2.2.

<b>Table 2.2</b>					
<b>Approved Efficiency Targets - Road Period 1</b>					
<b>Totals</b>	<b>Efficiency Savings</b>				
	<b>Year 1</b> 15/16	<b>Year 2</b> 16/17	<b>Year 3</b> 17/18	<b>Year 4</b> 18/19	<b>Year 5</b> 19/20
In Year	32.8	106.4	238.1	345.1	489.5
Cumulative	<b>32.8</b>	<b>139.1</b>	<b>377.2</b>	<b>722.3</b>	<b>1,211.8</b>

2.4.5 The *Delivery Plan* sets out various approaches that Highways England will use to become more efficient. These have been summarised in the *Capital Efficiency Delivery Plan*, which was published in November 2016, into an indicative emerging view of opportunities covering the following themes:

- contractual models;
- category management;
- commercial capabilities;
- innovation programme;
- lean deployment;
- planning and integration; and
- risk management.

### 3. Initial Review of Highways England Procurement Capability

#### 3.1. CIPS Accreditation Assessment

3.1.1 Highways England has used the CIPS Corporate Certification approach to assess and accredit its procurement capability. The Review Team has undertaken a review of Highways England's CIPS accreditation report to inform our initial view of its procurement capability, which forms the basis of our more detailed findings in later sections.

3.1.2 CIPS is widely considered to be the leading body covering the procurement profession and it has developed an accreditation scheme for organisations to demonstrate their procurement capability. There are two levels of Corporate Certification: Standard and Advanced Standard. Achieving the CIPS Standard Award signifies that an organisation has all the procurement governance mechanisms in place for effective supply assurance and compliance. Organisations at the Standard level of accreditation, the same as Highways England, include DfT, DVLA, Bombardier Transportation, Essex County Council, Metropolitan Police, NHS England, Sydney Trains, Thales UK and Westminster City Council.

3.1.3 The CIPS Advanced Standard accreditation scheme involves organisations demonstrating to independent assessors that they meet the criteria for higher levels of award, which are:

- Silver (Advanced level);
- Gold (Leading level) - organisations at the Gold standard include the Department of Food and Rural Affairs (Defra) and High Speed Two (HS2) Ltd, which has recently been upgraded from its original Standard accreditation; and
- Platinum (World Class level) - in the UK, the only public sector organisation to have achieved Platinum standard is the Government Communications Headquarters (GCHQ), but other organisations in the utilities and transport sectors have also achieved Platinum standard including BAE systems, EDF Nuclear Generation, NATS and Scottish Water. International organisations to have achieved the highest standard include CLP Power Hong Kong, PWC and the Xerox Corporation.

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All Awards are valid for three years and interim reviews are used to demonstrate that standards have been maintained.

- 3.1.4 CIPS describes Platinum Standard organisations as having demonstrated that procurement has become part of the lifeblood of their business and procurement is integral to their organisation's strategy and its very reason for being. Higher levels of attainment should increase the confidence in an organisation's sponsors, stakeholders and supply chain that it understands the importance of good procurement capability and will act fairly and transparently. The Review Team is of the view that achieving accredited status at an Advanced Standard can be beneficial in enhancing an organisation's reputation, providing a focus on continuous improvement in the form of more effective and efficient procedures and outcomes, and in helping to set them apart from other clients.
- 3.1.5 In December 2014 the Highways Agency was awarded the CIPS Standard level of accreditation and this was re-confirmed by an interim review of Highways England in December 2016. The organisation is currently going through the reaccreditation process and this is due to finish in February 2018. Highways England is also considering whether to seek an Advanced Standard accreditation to assess the ongoing and future improvements to capability that they are putting in place. If it does decide to proceed with an application for an Advanced Standard, then the timing would need to take account of planned workload and when appropriate evidence is available from the improvement plans currently being implemented. Another organisation to recently achieve the CIPS Standard accreditation is the Manchester Airports Group and its Head of Procurement said that gaining CIPS Certification will help us to strive towards our team vision of being recognised as the premier aviation procurement and contracts service provider which will add tangible benefits to our corporate business plan going forward. The Review Team would note however, that CIPS accreditation does not guarantee that the organisation's strategies and procedures are fully effective and efficient in the sector within which it operates.
- 3.1.6 The CIPS Corporate Certification approach measures an organisation's procurement function against the CIPS standards across five dimensions. These five dimensions are generic facets of all organisations regardless of the sector in which they operate. The whole process aims to ensure that an organisation is operating efficiently and effectively, and can drive constant improvement. At the Standard level achieved by Highways England, the CIPS accreditation tends to focus on the presence of required factors, and less on a qualitative assessment of those factors. For example, it checks whether there is a procurement policy in place rather than assessing how good it is. The five dimensions are:
- leadership and organisation;
  - strategy and policy;
  - people;
  - processes and systems; and
  - performance measurement and management;
- 3.1.7 The Review Team has not sought to re-evaluate Highways England's procurement capability, but it has examined the CIPS accreditation and has commented on the assessment as set out in Table A1 in Appendix A. A summary of our main observations in relation to the five dimensions is set out below:

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## CIPS Dimension 1 Leadership and organisation

The CIPS report identifies that Highways England has demonstrated that it has all the leadership and organisational building blocks in place to support effective procurement performance. This is particularly evidenced by:

- the Commercial and Procurement Director being on the Executive Board and being able to apply influence at a senior level;
- clear reporting lines through to the C&P Director; and
- a formal structure of procurement delegations clearly communicated to individuals, with a review procedure.

## CIPS Dimension 2 Strategy and policy

Criteria within this dimension relate to the organisation having a clear structure of policies, strategies, procedures and processes which have identified ownership and are clearly communicated. The CIPS assessment does not consider the adequacy of an organisation's policies and strategies, only that they are in place and are well communicated.

The Review Team notes that the CIPS report states that Highways England has demonstrated that the criteria for this dimension have been achieved, although Highways England has not produced a unified procurement policy document. The evidence provided by Highways England for the CIPS assessment sets out that it does not make policy and focuses on the processes in place to ensure that applicable wider Government policies are given operational effect. It is explained that high level procurement policy is usually developed by CCS/Cabinet Office and other Government departments are asked to feedback before it is finalised. Highways England's procurement team is part of the Virtual Policy Team, a cross Government forum of procurement specialists, who review and develop procurement policy which is then accepted, communicated and embedded within Highways England.

The evidence provided by Highways England explains that procurement policies can be found in the *Procurement Plan 2015-2020*, the *Five-Year Delivery Plan* and the *Supply Chain Strategy 2015*. The Review Team understands that some procurement policies are contained in internal guidance notes which may not be available to the supply chain.

The need for clear policy and strategy documents is an important part of the CIPS assessment process. The accessibility and transparency of such documents help to ensure that procurement plans and documents are fully aligned with Highways England's procurement policy and strategies. They also help to ensure that potential suppliers are well informed and well prepared to apply for Highways England opportunities and to align delivery proposals with Highways England's objectives.

It is also noted that para 7.9 of the Highways England Framework Document April 2015, produced by the DfT, requires it to produce its own procurement policy. This states that "*Highways England will produce and adhere to its own*

*procurement policies which will take account of any policies or guidance issued by the Cabinet Office and the Department's procurement policies and governance requirements".*

The Review Team considers that internal and external communication and understanding of Highways England's procurement policies could be improved by presenting it more clearly, possibly in a single document. This would also help in identifying any gaps in the current policy.

The Review Team also considers that there is a lack of clarity about the overarching procurement strategy. The 2009 Highways Agency Procurement Strategy is still available on Highways England's website but appears to be out of date and no longer driving procurement plans. The *Supply Chain Strategy 2015* and the *Procurement Plan 2015-2020* contain important elements of procurement strategy but they do not form a comprehensive procurement strategy document. There is a risk that the lack of an overarching strategy based on clearly defined policy principles leads to inconsistency in the development plans for the various programmes of work.

The CIPS criteria for the Strategy and Policy dimension set out the need for clear procurement objectives. The evidence provided to CIPS by Highways England is not consistent: in one place says the objectives are in the *Procurement Plan 2015-2020* and elsewhere says they are in the *Supply Chain Strategy 2015*. The way objectives are presented in the *Procurement Plan 2015-2020* is rather confusing. For example; the most significant factors in determining best value are set out to be:

- exemplary health and safety performance;
- excellence in customer service delivery;
- performance based on whole-life value and affordability; and
- innovation.

But the *Procurement Plan 2015-2020* also requires that performance measurement and tender assessment criteria are to be aligned with the five strategic outcomes:

- supporting economic growth;
- a safe and serviceable network;
- a more free-flowing network;
- an improved environment; and
- an accessible and integrated network.

### **CIPS Dimension 3 People**

The evidence provided for the CIPS assessment demonstrates a good commitment to the development of people in the Commercial and Procurement Directorate. There are, however, two specific areas where the evidence is not fully demonstrated:

- contract management; and
- sustainable procurement.

In respect of contract management:

- CIPS assessment criterion 3.3.2 relates to having a process in place which allows assessment of demonstrable procurement knowledge and skills, covering all staff who carry out tasks in the procurement life-cycle, including Contract Management. The evidence provided by Highways England refers to NEC e-learning which provides good generic training in the use and management of NEC contracts. There is no reference, however, to training which is tailored for specific Highways England NEC contracts which would also cover modifications to the standard form of contract and procedures developed specifically for use on Highways England's contracts;
- additionally, CIPS assessment criterion 4.5.1 identifies that a contract management process has been developed, communicated and embedded within Highways England's Way-We-Work system. Highways England has evidenced that it embeds these within the organisation through induction presentations and job descriptions, but there is no reference to tailored contract management training. It is not clear either whether there are different processes for the different types of contract used by Highways England; and
- CIPS assessment criterion 4.5.4 looks at whether contract performance and relationship management measures are in place and the evidence indicates that Highways England's focus is more on performance than on relationship management. The development and use of collaborative forms of contract such as the NEC places a greater priority on establishing and maintaining appropriate collaborative relationships. This is referred to in the CIPS assessment comments but overall there is no mention of training and development in relation to relationship management. There is evidence provided later in this report in the form of feedback from the industry that collaboration on Highways England contracts is not always working as well as it could.

In relation to contract management, and taking account of other issues identified in this report, the Review Team is of the opinion that:

- use of NEC requires a different approach to contract management with well-trained representatives on both sides; given that both Highways England and its supply chain are well experienced in NEC we expect this will generally be of a relatively high standard;
- Highways England should ensure that its contract management training arrangements are effectively tailored to address the specific requirements of their contracts, and support the development and management of appropriate collaborative relationships with the supply chain;
- avoiding the use of non-standard clauses will reduce the risk of contract management issues;

- the use of simple but strong incentivisation to deliver to time and budget (as recommended in our report) will ease contract management;
- the new approach to maintenance, where Highways England will be taking a more hands-on approach by managing many more tier-2 suppliers will be a challenge for its contract management resources; and
- it will greatly ease contract management if promises made at time of tender are transferred into the awarded contract, to provide certainty and clarity both for contract managers and contractors.

In respect of sustainable procurement:

- the assessor's comments for CIPS assessment criterion 3.4.2 states that Highways England is reliant upon CIPS qualification and training to deliver the requisite sustainability training. Whilst this meets the standard, Highways England might like to look for such training that is more tailored to Highways England's individual and specific needs; and
- the assessor's comments for CIPS assessment criterion 5.2.3 identifies that at the time of the interim review Highways England's Sustainable Procurement Policy was waiting publication. It was proposed that the release and implementation of this policy should be reviewed at the next full CIPS assessment.

The Review Team notes therefore, that the effectiveness of the new Sustainable Procurement Policy and the associated training and development of procurement staff will be covered at the next full CIPS assessment. The Review Team, however, has no reason to expect that Highways England will not be able to demonstrate good capability in this regard at that time.

#### **CIPS Dimension 4 Processes and systems**

The evidence provided by Highways England for the criteria in this dimension has satisfied the requirements of the CIPS Standard accreditation. There are, however, some criteria where the evidence, together with the assessor's comments, indicate some potential areas for improvement. These cover:

- process for agreeing changes to standard contracts;
- application of standard specifications and scopes;
- understanding of the lower levels of the supply chain;
- negotiation capability – use of Open procedure;
- contract management process for different contracts; and
- relationship management process.

#### **CIPS Dimension 5 Performance measurement and management**

The evidence provided by Highways England for the criteria in this dimension has satisfied the requirements of the CIPS Standard accreditation. There are however, some criteria where the evidence together with the assessors' comments indicate some potential areas for improvement. These cover:

- clarity of goals objectives across the various strategies and plans;
- measurement of efficiency in the procurement function;
- objectivity of performance measures;
- Highways England's Sustainable Procurement Policy requires review when available;
- the role of the audit process in measuring effectiveness rather than just compliance;
- the supplier continuous improvement process and the role of StART; and
- supply chain programme level risks.

### 3.2. CIPS Advanced Level Accreditation Requirements

3.2.1 In Highways England's case, to achieve Advanced Standard accreditation it would need to be able to demonstrate that it has moved on from the position that has earned the Standard level of accreditation. This would currently require evidence of improvements implemented over the last 12 months or so and that maturity is continuing to develop. The Review Team has assessed the high-level criteria required for an Advanced Standard accreditation and our comments on Highways England's position against these criteria are set out in Table B1 in Appendix B. It is for Highways England to decide whether a future application for Advanced Standard accreditation would be beneficial. The Review Team's views on the timing of a possible application are given in section 7.1.4.

### 3.3. Commercial & Procurement (C&P) Evolution

3.3.1 Highway's England's C&P Directorate has initiated an Evolution improvement programme. This seeks to address the challenges and take advantage of the opportunities offered by the establishment of the new corporate status and longer-term funding arrangement under the Roads Investment Strategy. Six key drivers for change have been identified by Highways England:

- increasing strategic capability and delivering performance;
- utilising commercial intelligence;
- understanding the value we add;
- engaging with internal and external stakeholders;
- growing our and supply chain capability; and
- new approaches that improve supply chain performance.

3.3.2 The C&P Evolution objectives are being translated into a new operating model across five key areas which are closely aligned to the dimensions used by CIPS for their corporate accreditation scheme:

- leadership and organisation;
- strategy;
- people;
- processes and systems; and
- procurement planning (performance management in CIPS).

3.3.3 The Evolution plans are supported by Highways England's *Supply Chain Strategy 2015* which is also aimed at improving capability and performance. It explains how the organisation will work with highways suppliers to meet the challenge of the Road Investment Strategy. This is set out in terms of investment, performance improvement and transforming road user experience through operation of the strategic road network. Highways England will implement the *Supply Chain Strategy 2015* in three ways: developing capability, building relationships, and improving performance through specific value chain plans. The Review Team saw evidence only of the Pavement Value Chain Plan but others, as they develop, will shape future procurement activity.

### 3.4. On-going Developments in C&P Evolution

3.4.1 The Evolution programme has moved C&P to a matrix management approach to delivery. The programme commenced towards the end of 2016 and is still being developed and implemented. The Evolution initiative presents challenges, but it will enable the flexibility required on the delivery of large programmes of work and will facilitate the necessary culture change. Matrix operating models are widely considered to be best practice to support the delivery of large scale programmes.

3.4.2 The Evolution planning is focussed on five areas based on the C&P functions:

- supply chain strategy;
- procurement;
- commercial delivery;
- commercial support; and
- customers and communities.

3.4.3 The Review Team strongly commends the work in progress to evolve to a matrix management type of structure. We consider that a matrix structure will offer increasing benefit as Highways England matures into its new role and will support greater capability, productivity and efficiency over the coming years. It will provide greater flexibility and responsiveness; an improved understanding of internal customer requirements; a better flow of information and transfer of knowledge across the business boundaries and a stronger focus on collaborative working. There is also a focus on ensuring that capital procurement takes account of future operation and maintenance. We particularly welcome the introduction of Business Partners to support procurement activity across the different investment programmes. The Business Partners take accountability for securing the necessary procurement resources and accessing standard procurement and contract documentation, working to the particular programme, but with a clear link to C&P. Whilst supporting the organisational developments, the Review Team considers there would be benefit in considering the benchmarking of resources and organisational structures with other organisations involved in the procurement of major infrastructure programmes.

3.4.4 The Evolution plans appear to be on course to be fully implemented before the end of RP1. The recruitment of key posts is nearly complete and the organisation is maturing into its new role. The signs of improvement are already encouraging; for example, the new approach is supporting the development of work on the new Routes to Market initiative, which will provide the delivery mechanism for the completion of the RIS1 programme and the delivery of the RIS2 programme currently under development. Benefits are being delivered through closer working with the business areas and being able to influence at an earlier stage in the development of procurement strategies. The

arrangements will, however, take time to fully mature and are likely to deliver full benefit during RP2. It can be expected that as the organisation moves into RP2 it will be better placed to continue to find improved and more efficient ways of delivering corporate objectives. This should provide benefit in the delivery of RIS2 through improved commercial support and in the development of procurement arrangements for RIS3.

### 3.5. Section 3 Findings

3.5.1 This section has made an initial assessment of Highways England's procurement capability from the perspective of the CIPS Standard level accreditation and the C&P Evolution improvement plans. The main findings are:

- a) The Review Team strongly commends the work in progress to evolve to a matrix management type of structure. It is providing: greater flexibility and responsiveness; an improved understanding of internal customer requirements; a better flow of information and transfer of knowledge across the business boundaries; a stronger focus on collaborative working; and a welcome focus on ensuring that capital procurement takes account of future operation and maintenance.
- b) The C&P Directorate should continue to implement its plans for a more integrated, matrix management organisation to support early engagement and maximise commercial support to the delivery teams.
- c) Consider benchmarking resources and organisational structures with other organisations involved in the procurement of major infrastructure programmes
- d) Consider developing a unified Highway's England Procurement Policy and overarching Strategy document to give greater clarity to internal teams and external suppliers and to support more consistent approaches.
- e) Clarify the status of the 2009 Highways Agency Procurement Strategy, which is still available on Highways England's website and is described as its latest procurement strategy.
- f) Review conflict of interest procedures to ensure that associated risks continue to be effectively managed.
- g) Review requirements of key procurement roles to ensure role holders have necessary skills and access to best practice and lessons learnt from other programmes and sectors.
- h) Review Highways England's requirements for the skills and experience of contract managers and consider NEC accreditation of key post holders where appropriate, and provide NEC training tailored to Highways England's requirements.
- i) Review governance procedures and delegations to ensure they are clear and efficient and do not result in unnecessary delay and/or inappropriate process.

## 4. Typical Causes of Procurement Inefficiency and Areas for Highways England Consideration

### 4.1. Typical Causes of Procurement Inefficiency

4.1.1 As part of the assessment of procurement capability and the consideration of potential efficiencies arising from improved capability, the Review Team has undertaken from first principles an assessment of typical inefficiencies that can occur in organisations which procure and deliver major infrastructure projects and the associated asset management requirements. Typical inefficiencies have been identified in a number of ways:

- reviews of industry reports, Government advice notes and other recognised sources that have considered lessons learnt and best practice across the industry;
- a review of academic studies in related subject areas;
- using the extensive procurement experience within the Review Team; and
- feedback from Procurement Expert Panels and assurance work on other major infrastructure programmes including Crossrail and High Speed 2.

4.1.2 To help align the typical inefficiencies with procurement capability we have categorised inefficiencies using the five main dimensions used in the CIPS accreditation approach. The full list of typical inefficiencies is provided in Table C1 in Appendix C. It is important to emphasise that these are not specific to Highways England - they are issues that have been observed by the Review Team to result in inefficiency in the procurement of major infrastructure programmes or projects. Table C1 ranks the typical inefficiencies in terms of their potential typical impact on resource (running costs) and capital costs.

4.1.3 Table C1 also sets out the Review Team's understanding of how the typical inefficiencies may apply to Highways England in particular, and comments on the potential for improvement in these areas. However, we recognise that, given the relatively limited scope of this Review, the analysis of improvement potential is simply a starting point that would benefit from further detailed review and study by Highways England. We are confident however, that the assessment identifies key areas for review and the opportunities which could offer the most potential for efficiencies.

4.1.4 Figure 4.1 shows the Priority 1 issues for Highways England's consideration that are most likely to provide opportunities for improvement potential. The Priority 1 issues are displayed based on their respective potential for resource and capital cost efficiencies. They cover:

- lack of clear policy;
- failure to establish fully collaborative relationships with suppliers;
- short-term rather than long-term contracts;
- lack of continuity of committed work for suppliers;
- supply chain not fully aligned with client objectives;
- unnecessarily complex tender procedures;

- performance improvements not supported by efficiency targets;
- innovation considered too late in the project development process;
- lack of independent assurance at key procurement stages;
- inadequate market engagement;
- lack of incentivisation for tier 2 sub-contractors; and
- lack of incentivisation of collaboration.

Potential for Resource Cost Efficiency	High	<ul style="list-style-type: none"> <li>• Lack of clear policy (B1)</li> <li>• Confrontation rather than collaboration (B3/C3)</li> <li>• Short term contracts (B9)</li> <li>• Lack of continuity (B10)</li> <li>• Confrontation rather than collaboration (C3)</li> <li>• Alignment of measures (E4)</li> </ul>	
		<ul style="list-style-type: none"> <li>• Lack of supply chain alignment with client objectives (B2)</li> <li>• Complex tender processes (D2)</li> <li>• Lack of ECI (D12)</li> <li>• Performance not supported by efficiency targets(E1)</li> </ul>	
	Low	<ul style="list-style-type: none"> <li>• Innovation considered too late (B7)</li> <li>• Lack of independent Assurance (D5)</li> <li>• Inadequate Market Engagement (D11)</li> <li>• Lack of Incentivisation for tier 2 sub-contractors (D25)</li> <li>• Lack of Incentivisation of collaboration (D27)</li> </ul>	
	Low	Potential for Capital Cost Efficiency	High

Figure 4.1 – Priority One Typical Inefficiencies for Highways England Consideration

## 4.2. Cost Consequences of Procurement Inefficiencies

4.2.1 Failure to address procurement inefficiencies will result in costs being driven up. Additional costs include resource costs associated with undertaking procurement procedures, but the most significant additional costs are higher capital costs if the procedures do not result in best value solutions, do not take account of whole life costs, or if they result in a legal challenge to the procurement. Examples of how additional costs arise from procurement related issues are set out below:

### a. Sub-optimal procurement strategies

- Procurement strategies that do not make provision for early contractor involvement will mean that potential for beneficial innovation and

essential planning for construction will be lost and construction costs will be higher.

- ii. Multi-stage procurement strategies that split project development into different phases undertaken by different suppliers carry the risk of discontinuity of design objectives, duplicated design in the handover of responsibilities, unclear design liability and duplicated insurance costs.

**b. Complex tender procedures** – these impact directly on the costs of suppliers in preparing tender submissions and on the contracting authority in preparing and evaluating the tenders. A further consequence is that high tender preparation costs can reduce the level of competition or unintentionally reduce the quality of tender proposals that are submitted – this reduction in competition can impact adversely on construction costs.

**c. Procurement challenge** – the potential risk of procurement challenge arises from non-compliance with Procurement Regulations or with the contracting authority’s own procurement procedures, or if those procedures are flawed. The consequences of procurement challenge can be very severe including substantial delay to projects, high costs in defending challenges and potentially having to re-run procurements. Challenges can also result in reputational damage which can also undermine confidence in the authority within the supply chain. The risk of challenge is best mitigated by having competent and capable procurement people and robust assurance and governance procedures. There have been no formal procurement challenges against Highways England that have involved court proceedings, which is a very good achievement. However,, as with most other clients, it is understood that there have been instances of issues being raised by unsuccessful tenderers. Over recent years there have been an increasing number of procurement challenges to the outcome of public contracts and clients cannot afford to be complacent.

**d. Lowest price contract award procedures** – potential risks of lowest price contract awards are well-known. Encouraging tenderers to submit very low prices to win contracts normally results in adversarial relationships as the contractor seeks to find ways of recovering costs through claims and disputes. We understand that, in some work programmes, Highways England uses negotiation of target prices rather than competitive tendering. This can be beneficial for a mature client that has good commercial intelligence to support the negotiation process, enabling it to set target prices with confidence. The Review Team were informed that this is the case for Highways England.

4.2.2 It is difficult to develop an efficiency monitoring methodology to determine the cost consequences of these types of issues on individual projects, each of which is unique and has different characteristics and risks. It is possible however, to provide a general categorisation of the issues based on their potential significance. The categories employed for this purpose are indicated in the table in Appendix C. In our assessment of the scope for efficiencies as part of Service Area 4 of this Review, we have estimated at the overall Road Investment Strategy level the efficiency consequences of improving capability to avoid the issues set out above.

#### 4.3. Procurement as an enabler for efficiencies delivered by other business areas

- 4.3.1 An important consideration in assessing the scope for improvements from procurement capability is that the current approach to efficiency measurement is to treat procurement as an enabler of efficiencies delivered and measured by delivery teams. In effect, efficiency improvements delivered by the business are reliant on the tools, opportunities and the culture of relationships with the supply chain that result from the overall procurement procedures.
- 4.3.2 Alongside this review, there have been other capability reviews which have examined the potential for improvement from programme/portfolio management and asset management. It will be important for Highways England and ORR to ensure that there is no duplication in the estimation of potential efficiencies across the three capability reviews when all are completed. Careful consideration is required in the assessment of overall potential efficiencies to understand the root cause of improvements. It would be inappropriate to simply aggregate potential savings from the three reviews to produce a total figure. Highways England and ORR will need to consider the findings of all three reviews, separately and in totality to agree the potential scope for efficiencies as defined by the scope of these capability
- 4.3.3 It is also important that there is a good understanding of potential improvements to business enablers that could be delivered by improvements to procurement. Highways England spends a very high proportion of its budget through the supply chain and in that sense, it can be considered to be largely a procurement organisation. Much of the potential efficiency improvement that the organisation can achieve will be driven by procurement improvements even if they are measured and recorded by other business areas. reviews.

#### 4.4. Section 4 Findings

- 4.4.1 The review has identified typical areas of inefficiency that can occur in infrastructure related procurement. Highways England should consider these typical inefficiencies, taking account of the priorities identified by the Review Team, and act where necessary to reduce the risk of the inefficiencies occurring in its procurement activities:
- a) Consider more focused dialogue with the supply chain at earlier stages in the development of procurement strategy and plans to achieve better alignment of suppliers with Highways England's objectives and approaches.
  - b) Consider opportunities to further develop the potential benefits from long-term contractual arrangements which offer continuity of work for the best performing teams.
  - c) Ensure a strong focus on the benefits of early contractor involvement and the supply chain in the development of project and programme proposals.
  - d) Seek to simplify pre-qualification and tender procedures to support maximum competition by reducing tendering and evaluation costs.
  - e) Ensure that effective collaboration on project delivery is supported by appropriate contractual incentives and a collaboration framework covering the

whole supply chain, focussing on delivery to budget and critical success factors.

- f) Ensure that design development strategies remove barriers to innovation and do not result in duplication of work at contract transition stages.
- g) Review incentivisation arrangements to ensure they are fully aligned with Highways England objectives, and that where appropriate they extend into the supply chain and agile incentivisation to deal with issues that emerge during delivery.
- h) Review contractual mechanisms and procedures for measuring and recording efficiency improvements delivered by the supply chain.
- i) Review governance arrangements to ensure that they are efficient, avoid the risk of unnecessary delays to project programmes and include independent assurance arrangements where appropriate.
- j) Develop the use of independent assurance procedures at key procurement stages to support the delivery of best value and to help ensure compliance with policy and Regulations.
- k) Review project record requirements (especially in relation to tender evaluation, moderation and feedback) to ensure they are adequate to defend against the risk of a successful procurement legal challenge.

## **5. Highways England Procurement - Alignment with Good Practice and Industry Feedback**

### **5.1. Current Procurement Approach by Programme**

5.1.1 Highways England works closely with partners and suppliers to ensure that the strategic road network is safe, efficient and meets the needs of road users. Highways England has categorised the main RIS activities that require procurement into four programmes:

- Complex Infrastructure Programme (CIP);
- Regional Investment Programme (RIP);
- Smart Motorway Programme (SMP); and
- Operations Directorate & Other (OD).

5.1.2 The procurement approach for all four programmes is currently undergoing substantial changes arising from new strategies and because the Collaborative Delivery Framework (CDF) is due to be replaced over the next two years. The current procurement approach for the main scope within each programme is given in Table 5.1 and Table 5.2.

Table 5.1 Current Procurement Approaches: Operations Directorate & Other (OD)	
Scope	Procurement Approach Key Features
<b>Area Maintenance:</b> Areas 3, 4*, 6, 8, 9, 10, 12*	<p><b>Asset Support Contracts (ASC)</b> are awarded to a single supplier per maintenance area. The supplier provides integrated network management, maintenance, improvement activities, incident management, event management and contingency planning on all purpose trunk roads and motorways in the maintenance area in accordance with Highways England's outcomes and standards. Duties include:</p> <ul style="list-style-type: none"> <li>• Routine and cyclic road and bridge maintenance works, including winter maintenance;</li> <li>• Capital schemes, (but excluding S278, S274, S274A or Section 6 of the Highways Act 1980 works unless instructed), which will have an upper value limit of £5M; and</li> <li>• Management of technology maintenance and improvement works.</li> </ul> <p>*Note Areas 4 &amp; 12 are being delivered under extended Managing Agent Contractor (MAC) contracts</p>
<b>Area Maintenance:</b> Areas 1, 2, 7, 13 and 14	<p>The Asset Delivery Model (ADM) strategy involves Highways England taking direct control of <u>asset and operations management</u>, including investment decisions. The approach aims to: (1) increase Highways England's intelligence regarding local factors that influence where work is needed leading to improved value management; and (2) drive down costs and waste by directly engaging suppliers and gaining increased commercial acumen. ADM includes:</p> <ul style="list-style-type: none"> <li>• <b>Maintenance &amp; Response Contract (MRC):</b> 15-year term service contract with one supplier (reviewed every 3-years); supplier based at depots; covers routine maintenance (agreed in a Cyclic and Routine Maintenance Delivery Plan); incident management (may require surfacing and road markings CWF contractors to attend); and severe weather response (value approx. £300m Area 7).</li> <li>• <b>Design Services Contract (DSC):</b> 5-year term service contract with one supplier per maintenance area generally co-located with Highways England; design for around £65m of renewals per annum (Area 7), includes design for repair and reinstatement of the network after incidents.</li> <li>• <b>Construction Works Framework (CWF):</b> In Area 7 this is a 4-year framework comprising 14 lots (1 to 3 suppliers per lot) – surface treatments; corrosion protection; road lighting and electrical; fencing and environmental barriers; general civils; structures, waterproofing and expansion joints; landscape and ecology; road markings; pavement; road restraint systems; structural concrete repairs; technology including traffic signals; temporary traffic management; drainage. Will deliver around £65m of renewals per annum; work allocation process (rather than mini-competitions).</li> <li>• <b>Specialist goods and services contracts</b> (including CCS frameworks as appropriate): covers services such as structural inspections, materials testing and weather forecasting; facilities for Highways England such as car leasing, PPE, uniforms and equipment; and work such as supply and installation of salt saturators.</li> </ul>
<b>Major Capital Renewals</b>	<p><b>Collaborative Delivery Framework (CDF):</b> see Table 5.2 for details of CDF.</p> <p><b>Asset Support Framework (ASF):</b> some package contracts remain under delivery in the <i>Procurement Plan 2015-2020</i>. The framework comprises 'north' and 'south' lots (awarded in 2012 by Highways Agency) covering large maintenance projects worth up to £15m.</p>
<b>Network Technology</b>	<p><b>Traffic Management Technology Framework (TMTF2)</b></p> <p><b>Regional Technology Maintenance Contracts (RTMCs)</b></p>
<b>Common goods and services</b>	<p><b>Crown Commercial Services (CCS) Frameworks</b> are used for Travel, uniforms, office ICT, facilities management, etc.</p>

<b>Table 5.2</b> <b>Current Procurement Approaches: Regional Investment Programme (RIP); Complex Infrastructure Programme (CIP); and Smart Motorway Programme (SMP)</b>	
<b>Programme</b>	<b>Approach Key Features</b>
<b>RIP:</b> Conventional widening and junction improvements	<p><b>Individually OJEU advertised contracts;</b> and</p> <p><b>Collaborative Delivery Framework (CDF):</b> procurement plans determined per individual mini-programme or scheme, which must align with framework structure:</p> <p><b>Lot 1:</b> Design &amp; Engineering The design and engineering Lot covers:</p> <ul style="list-style-type: none"> <li>• Early scheme design development</li> <li>• Design and engineering of schemes</li> <li>• Detailed scheme design</li> </ul> <p><b>Lot 2:</b> Scheme Delivery (£0-£25m) <b>Lot 3a:</b> Scheme Delivery (£25-£100m) <b>Lot 3b:</b> Scheme Delivery (£100m-£450m) The scheme delivery Lots cover:</p> <ul style="list-style-type: none"> <li>• Delivery of schemes within the value range</li> <li>• Early contractor engagement</li> <li>• Design management capability</li> <li>• Scheme planning and delivery</li> <li>• Commissioning &amp; handover to operations</li> </ul> <p>Can call upon <b>Category Management</b> enabled frameworks</p>
<b>CIP:</b> High value and complex Infrastructure schemes	<p><b>Individually OJEU advertised contracts;</b> and</p> <p><b>Collaborative Delivery Framework (CDF):</b> see details above. Can call upon <b>Category Management</b> enabled frameworks</p>
<b>SMP:</b> Technology schemes that enable the hard shoulder to be used by traffic	<p><b>Collaborative Delivery Framework (CDF):</b> see details above.</p> <p><b>Major Projects Framework (MPF):</b> some SMP contracts remain under delivery in the <i>Procurement Plan 2015-2020</i>. The framework was awarded in 2010 by Highways Agency and is not available for new work. Can call upon <b>Category Management</b> enabled frameworks</p>

## 5.2. Emerging Procurement Approach by Programme

5.2.1 The requirements of RIS1 and RIS2 that will not be fulfilled by the current Highways England contracts described in Tables 5.1 and 5.2 will be delivered via new procurement approaches. Such new approaches should follow Highways England's procurement and commercial strategies and policies, in particular:

- the direction of travel set of in the *Supply Chain Strategy 2015*, as summarised in Appendix D; and
- the key commercial principles and key factors set out in the *Procurement Plan 2015-2020* as summarised in Appendix E.

5.2.2 Table 5.3 sets out the emerging new procurement strategies for each of the four programmes of work.

<b>Table 5.3 Future Procurement Routes (RIS1 and RIS2)</b>	
<b>Programme</b>	<b>Approach Key Features</b>
Operations Directorate & Other (OD)	The plan for area maintenance is to roll out ADM, as described in Table 5.1 and refined as appropriate, to all maintenance Areas.
Regional Investment Programme (RIP)	<p>The Routes to Market (RtM) strategy that is under development for RIP will replace CDF. The strategy for RtM is not yet finalised, but likely key features are:</p> <ul style="list-style-type: none"> <li>• An Integration Partner approach that integrates design and construction and includes more integration between Highways England and suppliers;</li> <li>• Contracts likely to be 4 years + 2 years frameworks (2018 to 2024);</li> <li>• Frameworks will be regionally based (6 regions);</li> <li>• Programme packages (not individual schemes) will be awarded at the same time as the framework Lots;</li> <li>• Future programme packages will be allocated based on performance;</li> <li>• Technical Advisors (TA) will undertake early design and planning (up to Preferred Route) and provide the design expertise needed for contract management;</li> <li>• Delivery Integration Partners (DIP) will undertake planning, design and construction (post- Preferred Route);</li> <li>• It is anticipated that there will be 12 Technical Advisor Lots (across 6 regions) and 15 Delivery Integration Partner Lots (across 6 regions) with some value banding of DIP packages to create opportunities for a range of contractor sizes.</li> </ul>
Complex Infrastructure Programme (CIP)	To date, CIP schemes have been developed and delivered using either CDF or stand-alone procurement exercises. When CDF expires, the strategy for CIP will be to progress each scheme individually, developing a procurement strategy for each scheme to suit the circumstances in accordance with Highways England strategies and policies. Such scheme procurement strategies may include PF2 private finance arrangements. Each scheme will be separately advertised via OJEU to suit its delivery programme. The measurement of efficiencies related to privately finance contracts would need careful consideration because of uncertainty about balance sheet treatment and the whole life nature of the contracts.
Smart Motorway Programme (SMP)	To date, SMP has used the MP Framework and CDF as the main procurement routes. A new procurement strategy is under development for SMP, as part of RtM, which is running to a later timeline than RIP. Options under consideration for the SMP element of the overall programme include the development of alliances and design and build frameworks.

### 5.3. Industry Feedback

- 5.3.1 The Review Team has engaged with key industry bodies to obtain group feedback regarding how Highways England might improve efficiency from the point of view of the supply chain. The main bodies consulted were the Civil Engineering Contractor's Association (CECA) and the Specialist Engineering Contractors' (SEC) Group.
- 5.3.2 CECA is the representative body for companies who work day-to-day to deliver, upgrade, and maintain the country's infrastructure. With more than 300 members split across eight regions, CECA represents firms who together carry out an estimated 70-80 per cent of all civil engineering activity in the UK, in the key sectors of transport, energy, communications, waste and water.

5.3.3 The Specialist Engineering Contractors' (SEC) Group exclusively represents the interests of the specialist contractors across the UK and is made up of the British Constructional Steelwork Association, Electrical Contractors' Association, Building Engineering Services Association, Lift and Escalator Industry Association, SELECT (Electrical Contractors' Association for Scotland) and the Scottish & Northern Ireland Plumbing Employers' Federation (SNIPEF).

5.3.4 In reviewing the feedback, it is important to consider that it is given from a particular perspective. The full industry feedback from CECA and SEC Group is provided in Appendix F. Tables F1 and F3 set out aspects of Highways England's procurement and contract management practices that are considered by CECA to support greater efficiency and effectiveness. Tables F2 and F4 set out aspects of Highways England's procurement and contract management practices that are considered by CECA to threaten efficiency and effectiveness. Key areas of market feedback for Highways England are summarised below:

- **Quality of Market Engagement** - Highways England provides good opportunities for the market to engage, but the information provided as part of the engagement is quite often unclear, does not cover key topics of interest to the supply chain, or lacks the detail needed to help suppliers plan their businesses. There is an impression that Highways England is reluctant to provide detailed information in case something changes. This means it can be difficult for the supply chain to contribute in an informed way. When contributions are made, suppliers do not always get informed of how their comments have been considered. Also, when follow-up queries are raised suppliers do not always receive a response.
- **Procurement Procedure Inefficiency** - There are aspects of the procurement procedures where the supply chain where the supply chain have identified inefficient practices such as: unreliability of procurement timetables; the use of the Open procedure; and onerous submission requirements. The complexity and cost of procurement procedures is of particular concern. Senior managers in contracting companies set caps on budgets for bidding for work. If procurement procedures are seen as being too complex and too costly then some companies may decide not to tender, or the allocated budget may mean that they unable to produce their best proposals.
- **General Communications** – Although Highways England's willingness to engage with suppliers is high, it is considered that there is scope for improving general communications particularly in relation to scheme announcements. The recent announcement about delays to some RIS1 projects was used as an example. Suppliers have often made significant resource and cost commitments to projects and, if announcements are made which impact on delivery programmes, then it is important that detailed reasons are provided. Senior Directors can quickly lose confidence and potentially withdraw interest in projects if they are delayed without clear reasons and some attempt to retain the commitment of the supply chain.
- **Programme Peaks** - Despite the multi-year funding flexibility accorded to Highways England, there remains concern about the peaks in programmes, which cause resource problems for the supply chain, particularly when multiple projects are scheduled to go through the Development Consent Order process at the same time. This is not directly resulting from procurement, but it could be

possible to incorporate more flexibility within procurements and contracts and the problem should be reduced by improved planning in RP2 and into RP3.

- **Supply Chain Type** - It does not appear to be clear to the supply chain what type and size of supplier Highways England wants. On the Asset Delivery Model, Highways England is seeking direct relationships with traditional tier-2 and tier-3 suppliers, but many of those companies do not have the capacity to bid directly for Highways England tier-1 contracts with its more complex tender procedures. The supply chain has the impression that Highways England no longer favours joint ventures, but this has not been formally stated as a policy. It is unclear what the position is for new entrants and what they need to do to have a realistic chance of being selected and winning work. It has also been difficult for consultants to assess whether they are best to seek opportunities in a Technical Adviser role for Highways England or support contractors in designer roles.
- **Collaborative working** - The market considers that Highways England has room for improvement in working collaboratively. The Collaborative Delivery Framework is not seen as being fully effective in supporting collaboration. Suppliers are hoping for improved collaboration under the new Routes to Market arrangements. Suppliers also consider that Highways England should seek longer-term arrangements where better use is made of invested knowledge of suppliers working on specific programmes such as SMART motorways.

#### 5.4. Good Practice - Major Construction Industry Reports and Academic Research

5.4.1 The Review Team has undertaken a review of major construction industry reports and academic studies to identify key aspects which are considered to contribute to the development of best value procurement strategies. The objective of the review of industry good practice is to consider whether any elements of Highways England's procurement approaches could potentially benefit from closer alignment with lessons learnt from other projects and programmes.

5.4.2 Over the last 20 years or so there has been a wide range of reviews and reports into the state and performance of the construction sector in the UK. Since the early 1990's the Government has been keen to see an improvement in performance and productivity. At that time the industry had a poor reputation based on the high number of projects that were delivered late and over-budget. There was a noticeable adversarial culture between clients, contractors and consultants and there were many claims, disputes and legal proceedings. Industry reviews commenced with the Latham Report as far back as 1994. Since then, the industry has progressed slowly but there is now an increasing number of examples of good practice projects based on collaborative working. However, the desired collaborative culture is not yet fully embedded across the industry. The findings and recommendations of industry reports considered by the Review Team to be the most relevant are summarised in Appendix G.

5.4.3 In addition to industry reviews, a wide range of advice and guidance has been published over the years to help guide infrastructure clients in the selection of procurement strategies. Such advice and guidance notably includes:

- Achieving Excellence in Construction - Office of Government Commerce, 2002;

- Improving Infrastructure Delivery: Project Initiation Routemap - Infrastructure and Projects Authority, 2014 onwards; and
- Common Minimum Standards for Construction – Infrastructure and Projects Authority, March 2017.

5.4.4 The Infrastructure and Projects Authority (IPA) is the Government's latest centre of expertise for project development and delivery. It reviews infrastructure best practice to help support more effective management and delivery across Government.

5.4.5 The IPA publishes and maintains the Project Initiation Routemap, which sets out a structured process that aims to support the development of specific approaches to infrastructure projects. The Project Initiation Routemap has been developed with the Infrastructure Client Group (ICG), which enables major infrastructure clients to share experience and develop guidance and best practice materials to improve delivery of UK infrastructure.

5.4.6 The Procurement Routemap, a module of the Project Initiation Routemap, provides a set of guidelines and tools to support public and private infrastructure providers' capability to improve the delivery of large scale projects and programmes. The Procurement Routemap identifies six primary sets of activities in the procurement of any infrastructure project:

1. Understanding & communicate requirements
2. Engaging the market
3. Packaging strategy, of design and construction
4. Contracting strategy, or risk allocation
5. Choosing the route to market
6. Communicating the benefits

5.4.7 If one of the six activities is missing or out of balance then the procurement will be inefficient and likely to lead to less successful outcomes. However, although the Routemap's Procurement Module provides a framework for decision making, to arrive at effective procurement strategies, it must be applied with the skill and expertise that comes from practical experience of infrastructure procurement.

5.4.8 The Review Team has also considered academic studies to assess evidence relating to best value components of procurement strategies. This has identified a number of aspects which are considered to be particularly important in supporting best value and the delivery of efficiencies through procurement. These key areas have been summarised in a number of academic notes which are included in Appendix H to Appendix M and are described below:

- **Academic Note 1 Procurement Strategy to Articulate Vision and Objectives** highlights the importance of moving away from transactional relationships with the supply chain and developing strategic relationships which can produce significant savings. It also sets out the importance of clearly articulating vision, mission and objectives and aligning these down through delivery plans. These documents play a key role in shaping supply chain stakeholders and in setting out the type of organisation that the client is trying to be.

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- **Academic Note 2 Collaboration, Integration and Long-term Relationships** highlights the recognised benefits in moving away from adversarial, short-term transactions with a large supply base towards fewer, closer, well-coordinated, long-term, collaborative relationships. Studies in other sectors have identified impressive performance gains resulting from these types of approach, and have shown that benefits can be replicated in the construction sector. The benefits of relationship strength have been studied and it has been found that it is significantly related to time and cost performance outcomes, but that strong relationships can take considerable time and resources to fully develop. The most benefit comes from relationships which mature into what are known as strategic partners with a high level of integration between companies.
  - **Academic Note 3 Early Supplier/Contractor Involvement and Market Engagement** highlights the potential large benefits from early supplier involvement in the planning, development and design of detailed project solutions. There is evidence that early involvement can reduce overall project duration and increase quality. Enabling different forms of early involvement, and getting most value from it, will involve reflection on when suppliers are involved, which suppliers are involved, and how they are involved. The note also discusses the potential benefits of engaging with the supply market to discuss strategy and delivery methods.
  - **Academic Note 4 Contracts and Incentivisation** considers the need for the integration of contractual and relational elements of buyer-supplier arrangements, supported by collaborative forms of contract such as the NEC. There is a need to articulate clearly the processes, principles and systems that will lead to appropriate selection of contractual and relational forms for different projects or programmes. Evidence is identified to show the cost efficiencies and more effective methods resulting from alliance arrangements.
  - **Academic Note 5 Whole Supply Chain Networks and Value** considers the need to widen the scope of focus beyond individual buyer-supplier relationships to whole networks. Studies have argued that this extended perspective is needed to maximise the value created and delivered, and to minimise waste. It discusses three distinct challenges: the extent of active management and monitoring across the network, effective coordination, and identifying value. A systems approach underpinned by collaborative working is proposed to ensure overall co-ordination of the network.
  - **Academic Note 6 Procurement Savings and Efficiencies** examines the evidence from related sectors which identifies potential savings and efficiencies that can be delivered from procurement improvements. It presents evidence for the range of potential cost savings possible and typical performance savings. These are discussed within the context of the procurement maturity levels and the extent to which recognised good practices have been adopted.

## 5.5. Summary of Good Practice Construction Procurement Principles

5.5.1 In practice, effective procurement strategies for infrastructure projects will be influenced by a wide range of factors including:

- infrastructure project characteristics, e.g., scale and complexity, key technical challenges, geography, value, timing, and availability of funding;
- client factors, e.g., in-house capability, resources and appetite for risk; and
- market factors, e.g., established trading patterns and contracts; and supplier capability, capacity and appetite.

5.5.2 With such a range of variables, it requires sound procurement judgement to identify the principles that should be used for any particular procurement exercise. However, a set of generic good practice principles can be identified bringing together the underpinning themes that emerge from the academic notes and the guidelines from major reports summarised in Appendix G. The following generic good practice principles should be considered in the development of infrastructure procurement strategies:

- **Strong procurement leadership and governance** - strong procurement leadership, effective organisation and efficient governance.
- **Focus on whole-life objectives** - as far as possible, aligning the achievement of the client's whole-life objectives with the rewards and incentives of the supply chain.
- **Continual supply chain engagement** - continual engagement with the supply-chain to optimise procurement strategies, plans and processes.
- **Longer-term contractual arrangements** - Longer-term contracts to support the development of strategic supplier relationships, supplier investment, learning and continual improvement.
- **Early appointment of an integrated delivery team** - the early appointment of an integrated delivery team (contractor, designer and key supply chain companies) to undertake design and construction planning in parallel, and to take full advantage of modern technology and methods such as Building Information Modelling (BIM) and off-site construction.
- **Simple contractual interfaces** - as far as possible, avoiding establishing multiple and complex contractual interfaces and ensuring that all necessary interfaces are well understood and managed.
- **Collaborative relationships throughout contract delivery** – developing and maintaining strong collaborative relationships with the supply chain throughout contract delivery.
- **Contract awards based on value** - awarding contracts based on the supplier's ability to deliver best value solutions (not the lowest price).

- **Contract performance management** - on-going management of performance against the client's objectives to drive and demonstrate the delivery of best value.
- **Sharing and learning** - facilitating the sharing of innovation, ideas and performance and cost benchmarking data across the supply chain to support learning and greater efficiency.
- **Fair allocation of risk and continual risk management** – Developing contracts with a fair and appropriate allocation of risk followed by a joint and active focus on risk and opportunity management during delivery.
- **Fair rewards and prompt payment** - Committing to and implementing fair rewards and prompt payment for all suppliers.
- **Minimising the direct cost of procurement** - minimising the complexity and cost of procurement exercises (pre-qualification and tendering) to maximise competition and reduce supplier overheads.

5.5.3 A synthesis of themes from academic notes and good practice principles is shown in Figure 5.1. The underpinning themes from the academic notes are articulated in the numbered hexagons, and the good practice principles are located close to the relevant theme around the outside. Sharing and learning sits at the centre and can be linked to all underpinning themes. The linkages between generic good practice principles and the academic themes are also made explicit in each academic note (see Appendix H to Appendix M).



**Figure 5.1** – Synthesis of themes from academic notes and generic good practice principles

## 5.6. Alignment of Highways England Procurement with Good Practice Principles

5.6.1 The Review Team’s view of the broad alignment of current Highways England approaches, as described in Tables 5.1 and 5.2, with the good practice principles is shown in Table 5.4.

<b>Table 5.4 Alignment of current Highways England approaches with the good practice principles</b>			
<b>Infrastructure Procurement - Good Practice Principle</b>	<b>Degree of Alignment</b>		
	<b>ASC</b>	<b>ADM</b>	<b>CDF</b>
<b>Strong procurement leadership and governance</b> - strong procurement leadership, effective organisation and efficient governance.	H	H	H
<b>Focus on whole-life objectives</b> - as far as possible, aligning the achievement of the client’s whole-life objectives with the rewards and incentives of the supply chain.	M	M	M
<b>Continual supply chain engagement</b> - continual engagement with the supply-chain to optimise procurement strategies, plans and processes.	H	H	H
<b>Longer-term contractual arrangements</b> - Longer-term contracts to support the development of strategic supplier relationships, supplier investment, learning and continual improvement.	H	H	M
<b>Early appointment of an integrated delivery team</b> - the early appointment of an integrated delivery team (contractor, designer and key supply chain companies) to undertake design and construction planning in parallel, and to take full advantage of modern technology and methods such as Building Information Modelling (BIM) and off-site construction.	H	M	M
<b>Simple contractual interfaces</b> – as far as possible, avoiding establishing multiple and complex contractual interfaces and ensuring that all necessary interfaces are well understood and managed.	H	M	M
<b>Collaborative relationships throughout contract delivery</b> – developing and maintaining strong collaborative relationships with the supply chain throughout contract delivery.	M	H	M
<b>Contract awards based on value</b> - awarding contracts based on the supplier’s ability to deliver best value solutions (not the lowest price).	H	H	M
<b>Contract performance management</b> - on-going management of performance against the client’s objectives to drive and demonstrate the delivery of best value.	M	H	H
<b>Sharing and learning</b> - facilitating the sharing of innovation, ideas and performance and cost benchmarking data across the supply chain to support learning and greater efficiency.	M	H	M
<b>Fair allocation of risk and continual risk management</b> – Developing contracts with a fair and appropriate allocation of risk followed by a joint and active focus on risk and opportunity management during delivery.	H	H	H
<b>Fair rewards and prompt payment</b> - Committing to and implementing fair rewards and prompt payment for all suppliers.	H	H	H
<b>Minimising the direct cost of procurement</b> - minimising the complexity and cost of procurement exercises (pre-qualification and tendering) to maximise competition and reduce supplier overheads.	H	M	M

5.6.2 The Review Team’s view of the potential alignment of Highways England’s emerging approaches for each of the major capital programmes, as described in Table 5.3, with the good practice principles is shown in Table 5.5.

<b>Table 5.5 Potential alignment of proposed Highways England approaches for capital programmes with the good practice principles</b>			
<b>Infrastructure Procurement - Good Practice Principle</b>	<b>Degree of Alignment</b>		
	<b>RIP</b>	<b>CIP</b>	<b>SMP</b>
<b>Strong procurement leadership and governance</b> - strong procurement leadership, effective organisation and efficient governance.	H	H	H
<b>Focus on whole-life objectives</b> - as far as possible, aligning the achievement of the client’s whole-life objectives with the rewards and incentives of the supply chain.	M	M/H	M
<b>Continual supply chain engagement</b> - continual engagement with the supply-chain to optimise procurement strategies, plans and processes.	H	H	H
<b>Longer-term contractual arrangements</b> - Longer-term contracts to support the development of strategic supplier relationships, supplier investment, learning and continual improvement.	M/H	H	M/H
<b>Early appointment of an integrated delivery team</b> - the early appointment of an integrated delivery team (contractor, designer and key supply chain companies) to undertake design and construction planning in parallel, and to take full advantage of modern technology and methods such as Building Information Modelling (BIM) and off-site construction.	M/H	H	M/H
<b>Simple contractual interfaces</b> – as far as possible, avoiding establishing multiple and complex contractual interfaces and ensuring that all necessary interfaces are well understood and managed.	M	M/H	H
<b>Collaborative relationships throughout contract delivery</b> – developing and maintaining strong collaborative relationships with the supply chain throughout contract delivery.	M/H	H	H
<b>Contract awards based on value</b> - awarding contracts based on the supplier’s ability to deliver best value solutions (not the lowest price).	H	M/H	H
<b>Contract performance management</b> - on-going management of performance against the client’s objectives to drive and demonstrate the delivery of best value.	H	H	H
<b>Sharing and learning</b> - facilitating the sharing of innovation, ideas and performance and cost benchmarking data across the supply chain to support learning and greater efficiency.	H	M/H	H
<b>Fair allocation of risk and continual risk management</b> – Developing contracts with a fair and appropriate allocation of risk followed by a joint and active focus on risk and opportunity management during delivery.	H	H	H
<b>Fair rewards and prompt payment</b> - Committing to and implementing fair rewards and prompt payment for all suppliers.	H	H	H
<b>Minimising the direct cost of procurement</b> - minimising the complexity and cost of procurement exercises (pre-qualification and tendering) to maximise competition and reduce supplier overheads.	M/H	M	M/H

5.6.3 During RIS1 CDF has been used to support delivery of all of RIP, CIP, SMP and some OD capital schemes. However, as CDF nears the end of its life, new programme-specific solutions are being developed by Highways England. The conclusion from

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Table 5.4 and Table 5.5 is that the procurement approach for the three main capital programmes under Routes to Market is likely to be more closely aligned to the generic good practice principles than was achieved under CDF.

## 5.7. Section 5 Findings

5.7.1 The review has compared Highways England's procurement strategies with recognised good practice principles as identified from a review of industry reports, Government guidance, academic research and industry feedback. The Review Team considers that Highways England is adopting many elements of industry good practice. The opportunity for further improvement depends on Highways England's maturity in relation to the good practice principles. Highways England should consider the assessment undertaken by the Review Team and seek opportunities to develop the alignment of its procurement strategies with recognised good practice. The Review Team considers that particular opportunities may be identified in relation to:

- developing longer-term relationships with strategic partners;
- developing further opportunities for the early involvement of the supply chain in the development of projects and in identifying innovative approaches;
- developing the effectiveness of incentives and contractual mechanisms to support collaborative relationships; and
- minimise the direct cost of procurement to maximise competition.

## 6. Service Area 1: Highways England's Current Procurement Capability

### 6.1. Approach to Service Area 1

6.1.1 The Review Team's starting point for the assessment of Highways England's current procurement capability has been the CIPS Standard level accreditation originally awarded in December 2014 and confirmed in an interim review in December 2016. This initial assessment of capability is set out and analysed in Section 3. The CIPS process provides a good starting point for the assessment of procurement. The CIPS process is somewhat generic, focusing on the presence or otherwise of the basic building blocks required for robust procurement. To fully test the appropriateness and effectiveness of procurement methods for the construction sector in which Highways England operates, the Review Team considered that the CIPS assessment needed to be supported by further assessments. The Review Team has achieved the overall assessment of Highways England's current procurement capability through the following activities:

- a review of the CIPS assessment report to pick out any issues raised including any potential areas for improvement identified by the assessor (see Section 3);
- an assessment of the improvements being implemented by the Commercial and Procurement Directorate through its Evolution programme (see Section 3);

- the identification and assessment of typical inefficiencies found in the delivery of infrastructure projects that can arise from procurement related activities. This has been developed by the Review Team using the experience within the team, feedback from other projects and through academic research. The assessment has considered the potential degree of inefficiency that could arise in terms of capital and resource costs. It has also assessed, to the best of the Review Team's understanding, where Highways England are positioned in relation to these potential inefficiencies to identify possible priorities for review (see Section 4);
- a comparison of the alignment of Highways England's procurement strategies with recognised good procurement practice as assessed by the Review Team who have undertaken a review of Government advice, industry reports and academic studies (see Section 5);
- corroboration of the assessments undertaken by the Review Team was found in the feedback from the industry on their views on Highways England's procurement methods and procedures (see Section 5); and
- holding meetings and interviews with key members of the C&P Directorate.

## 6.2. Service Area 1 Findings

### 6.2.1 The Review Team's Service Area 1 findings are:

- i. Highways England's current procurement capability has been fully reviewed and analysed as set out above. This analysis indicates that Highways England has established a good level of procurement capability. This is initially demonstrated by its achievement in obtaining the CIPS Standard Level of Accreditation under its Corporate Certification scheme. The C&P Directorate has also been implementing improvements through its Evolution programme which is producing significant benefits in terms of how commercial and procurement services are delivered to support the wider business objectives.
- ii. In relation to contract management which is part of Highways England's overall commercial function, the Review Team considers that:
  - both Highways England and its supply chain are well experienced in NEC and we expect that this, in general, will be of a relatively high standard;
  - Highways England should ensure that its contract management training arrangements are effectively tailored to address the specific requirements of their contracts, and support the development and management of appropriate collaborative relationships with the supply chain;
  - avoiding the use of non-standard clauses will reduce the risk of contract management issues;
  - the use of simple and strong incentivisation to deliver to time and budget (as recommended in our report) will ease contract management;

- the new approach to maintenance, where Highways England will be taking a more hands-on approach by managing many more tier-2 suppliers will be a challenge for its contract management resources; and
  - it will greatly ease contract management if promises made at time of tender are transferred into the awarded contract, to provide certainty and clarity both for contract managers and contractors.
- iii. The C&P Evolution improvement programme is still in the process of being implemented and the developing organisation is not yet fully mature. The improvements have, however, already delivered important benefits in terms of how the C&P Directorate has been able to work more closely with other business areas and to influence procurement strategies and planning at an earlier stage than previously. As a result of the improvements made by the C&P Directorate, the Review Team considers it very likely that that it has progressed beyond the Standard Level of Accreditation.
- iv. The CIPS capability assessment has been supplemented by an analysis of typical inefficiencies that can occur in the delivery of infrastructure projects from procurement related activities. The Review Team considers that Highways England's methods are well developed with a good degree of mitigation in many of the areas of typical inefficiencies. It is considered however, that there are areas where capability is still maturing and further improvements in these areas will lead to increased efficiency in the future, as described in the sections on Service Areas 2 to 4.
- v. The assessment of procurement capability has been considered further by a comparison of Highways England's methods with recognised industry good practice. The Review Team considers that Highways England is adopting many elements of industry best practice in its procurement strategies and methods. There are some areas however, particularly around the development of long-term collaborative relationships, where further improvements can be expected over the coming years as the C&P Directorate's Evolution programme matures.
- vi. Feedback from the industry is considered to corroborate the findings of the assessments undertaken by the Review Team.

## **7. Service Area 2: Capability Improvement Plans to the end of RP1**

### **7.1. Approach to Service Area 2**

7.1.1 The Review Team understands that the aims of assessing procurement capability improvement to the end of Roads Period 1 include:

- supporting the assessment of risks to the delivery of the RIS1 efficiency target; and
- the consideration of potential benefits from improvements made during RP1 to support efficiencies in the preparations for, and delivery of RIS2.

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7.1.2 The Review Team's approach to the assessment of ongoing improvements to Highways England's procurement capability during RP1 has been:

- to build on the assessment of current capability set out in relation to Service Area 1;
- to assess the effectiveness of the C&P Evolution improvements to date and to consider ongoing Evolution plans for the remainder of RP1;
- to consider the potential for Highways England to apply for CIPS Advanced Level accreditation;
- to consider the performance of Highways England in delivering efficiencies to date and to assess risks to the delivery of the RIS1 efficiency target during the remainder of RP1 (Section 2);
- to consider information in relation to new strategies and plans for the procurement of major work programmes during the remainder of RP1, e.g., the new Routes to Market to replace the existing Collaborative Delivery Framework (Section 5); and
- to hold meetings and interviews with key members of the C&P Directorate to obtain views in relation to ongoing improvement plans.

7.1.3 In relation to C&P Directorate's improvement plans, it is in the process of implementing its Evolution programme to build a new operating model, develop capability and to transform business delivery. The process began in 2016 and development and implementation of the plans are ongoing. The new organisation and way of working is taking shape and significant benefits of the Evolution programme are emerging. For example, the introduction of Business Partners is improving communications and collaboration with other Highways England business areas. The Evolution programme of improvements is planned to continue to the end of RP1 and will be fully in place for delivery of the RIS2 programme. The timing of the Evolution programme means that there will be benefits during the remainder of RP1 including important benefits in the commercial support provided to contracts being delivered during the remainder of RP1.

7.1.4 The Review Team understands that currently Highways England is not yet seeking to apply for a higher Advanced Level of accreditation under the CIPS scheme and is considering whether to do so in the future. This is sensible in view of the current high workload including the preparations for the new Routes to Market procurement for the delivery of the remainder of the RIS1 schemes and the future RIS2 schemes. In addition, the C&P Evolution programme is still being implemented and it will take a little while to produce and document the evidence needed to support an application for an Advanced Level CIPS accreditation. The Review Team is of the view that Highways England has clearly moved forward from the CIPS Standard level accreditation. Provided it addresses the key issues set out in this report, we feel that Highways England is likely to achieve an Advanced Level accreditation at either the Silver or Gold standard. There are some aspects of the CIPS requirements that would be likely to require further development to achieve Platinum standard.

- 7.1.5 The Review Team considers that if Highways England were to decide to apply for CIPS Advanced Standard accreditation, then around the end of RP1 would appear to be a good time for an application. It is expected that at that time it would, in any event, be required to have an interim review to maintain its Standard level accreditation and applying for the Advanced Standard would minimise the preparation of additional evidence. The timing of an application around 2019/2020 for Advanced Standard should work well as the activity on procuring the new Routes to Market arrangements should be complete, supporting evidence from the improvement measures associated with the Evolution programme should be available, and action may have been taken as a consequence of this review. A successful application for the Advanced Standard in 2019/2020 would confirm that Highways England's procurement capability had continued to mature and improve and that it is in a good position as the organisation moves into RP2. The benefits of Advanced Standard and an ongoing focus on continuous improvement would deliver benefit in RP2 and beyond in the planning and delivery of programmes during RP3.
- 7.1.6 In relating improved procurement capability during the remainder of RP1 to potential efficiencies that could be achieved, it needs to be recognised that the level of potential efficiencies is in part constrained by existing contractual arrangements. The improving commercial and procurement capability will help in the development of the new Routes to Market approach. However, given procurement lead times, the full benefits of the ongoing improvements can be expected to flow during the delivery of RIS2 and in the planning for RIS3, as discussed in Section 8.
- 7.1.7 To help inform the Review Team's view on Highway's England required procurement capability improvements during RP1 it has also considered the performance of Highways England in delivering efficiencies to date. Highways England target is to deliver at least £1.2bn as part of RIS1. At the end of 2016-17, ORR reported that in the first two years of RIS1 Highways England delivered cumulative efficiencies of £169m against its cumulative milestone of £139m, spread across the capital improvement and renewals programme. The figure for delivered efficiencies has subsequently been revised upwards to £260m. While this is commendably ahead of programme it still leaves overall efficiency savings of £940m to be found over the remaining three years. This represents a considerable acceleration which was challenged by the Review Team. However, the team was assured that Highways England maintains a strong focus on monitoring the likelihood of future efficiency savings using a Red Amber Green (RAG) rating system. The Review Team was informed that, with respect to the £1.2bn overall efficiency target, Highways England consider that the target can be achieved with a reasonable degree of confidence despite the significant challenges faced in its delivery. The ongoing improvements being achieved through the C&P Evolution programme will help support the delivery of the RIS1 efficiency target.
- 7.1.8 Risks to the delivery of efficiencies during the remainder of RIS1 could include:
- a) Delivery methods are constrained by existing contract arrangements which may not allow maximum potential efficiency.
  - b) Delivery programme is back-end loaded creating a peak of work which could put pressure on resources and potentially increase prices. This could mean that the available funds are spent but the required outputs and efficiencies are not delivered.
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- c) Highways England faces competition from other programmes of work (e.g. HS2, other rail programmes, etc.) for internal and external resources, and it needs to ensure that its salary packages and overall offer are attractive and competitive.
- d) Highways England resources will be stretched in delivering project outputs and it may lose focus on measuring and reporting efficiencies.
- e) Highways England's wider corporate improvement plans, organisational developments and culture change programme are still maturing.
- f) Any significant slippage or re-programming of schemes could make it more difficult to deliver efficiencies within the RIS1 period, although the Review Team understands that Highways England has mitigated this risk by over-programming RIS1 and this should help the target efficiencies to be realised.
- g) The time available for improvements and innovation from further supplier engagement and early contractor involvement in RIS1 is limited.
- h) Highways England uses the Pavement Efficiency Group as an example of best practice engagement with the supply chain. The Review Team has examined the Pavement Value Chain Plan and considers that it represents very good practice and has delivered encouraging results. We would note however, that there are unique characteristics in the pavements supply chain and other areas may require different approaches and the potential benefits may not be as high.
- i) The full benefit from stronger collaborative working with the supply chain will take time to develop.
- j) Initiatives which require various parts of the supply chain to take on different roles and support different approaches will need to allow time for business models to be adapted.
- k) There is a risk that procurement and contract management efficiencies will be under-reported because of the method of comparing pre-efficient and post-efficient scheme design estimates.

## 7.2. Service Area 2 Findings

### 7.2.1 The Review Team's Service Area 2 findings are:

- i. Highways England's procurement capability improvement plans to the end of RP1 have been fully reviewed and analysed as set out above. On the basis of this analysis the Review Team is confident that during the remainder of RP1 there will be ongoing improvement in capability within C&P as a result of the Evolution programme. This developing maturity should support improved productivity, additional efficiencies in project delivery based on improved procurement strategies and procedures, and enhanced commercial support to contracts delivered during RP1. These improvements will support the delivery of the RIS1 efficiency target.

- ii. The Review Team is of the view that Highways England has clearly moved forward from the CIPS Standard level accreditation. Provided it addresses the key issues set out in this report, we feel that Highways England is likely to achieve an Advanced Level accreditation at either the Silver or Gold standard. If Highways England does decide to seek Advanced Standard accreditation, then around the end of RP1 would appear to be a good time for an application and the timetable would allow Highways England to produce and record the evidence required to support an application.
- iii. In relation to the delivery of the £1.2bn RIS1 overall efficiency target, the Review Team considers that its commendable that Highways England is ahead of programme in delivering the efficiency trajectory but notes that it still leaves the bulk of the overall efficiency savings to be found over the remainder of RP1. The Review Team was however, informed that Highways England has a reasonable degree of confidence that the target can be achieved despite the significant challenges faced in its delivery. The ongoing improvements being achieved through the C&P Evolution programme will help support the delivery of the RIS1 efficiency target.
- iv. It is not within the scope of this review to audit or assure those predictions (especially given they relate to overall efficiencies, not just procurement efficiencies). However, based on the information provided to us it seems likely that the £1.2bn efficiency target over the RP1 period is achievable with continued focus and tenacity.

## **8. Service Area 3: Potential Capability Improvements to the end of RP2**

### **8.1. Approach to Service Area 3**

8.1.1 The Review Team's approach to the assessment of potential capability improvements to the end of RP2 has been:

- to build on the assessments of capability and improvement plans undertaken as part of Service Areas 1 and 2;
- to consider the potential for ongoing improvements to procurement capability beyond the end of RP1 taking account of academic research into similar initiatives by other organisations;
- to consider opportunities for further addressing typical areas of inefficiency identified in Section 4;
- to consider opportunities for more fully aligning future procurement strategies and procedures with recognised industry good practice as set out in Section 5; and
- to consider strategic risks which may impact on procurement and delivery methods during RP2.

- 8.1.2 The Review Team understands that part of the current Evolution programme is to mature the existing initiatives and to aim for ongoing continuous improvement as the organisation moves into the delivery of RIS2. It can be expected that further organisational and procedural improvements will be supported during RP2 by the enhanced capability that is now being developed. The more capable that an organisation becomes, the more potential it has to further develop through its improved understanding of what delivers best value. This will, however, require a strong commitment to continuous improvement within its culture and procedures.
- 8.1.3 The Review Team believes that Highways England has the leadership and is developing the capability to deliver more effectively and efficiently during RP2, which will also have benefits for the planning and delivery of RP3. Potential improvements over this period would include:
- continue to demonstrate improved capability based on the CIPS assessment method by aiming for the CIPS Platinum Advanced Standard;
  - careful and ongoing consideration of the typical areas of inefficiency that can occur on infrastructure related procurements to find further opportunities to achieve efficiencies;
  - maintain close collaboration with other leading infrastructure clients to share lessons learnt and good working practices and to build these into new strategies and plans as opportunities arise;
  - the development of more effective long-term collaborative relations with suppliers identified as key strategic partners;
  - improved clarity of procurement policies and strategies to ensure full alignment of the supply chain with Highways England's corporate objectives; and
  - making supplier engagement and early contractor involvement even more effective through better dialogue on the full range of issues affecting the market.
- 8.1.4 A key issue relating to the development of improved procurement capability during RP2 will be to ensure that the timing of improvement plans aligns with major procurement opportunities that will arise during that period. Some of the procurement arrangements for the delivery of RIS2 requirements are being put in place now, for example the new Routes to Market approach. This will to an extent, constrain opportunities for further improvement during the delivery of that work programme. Further procurement opportunities will however, arise during RIS2 and it would be very desirable for Highways England's procurement capability to be as mature as possible to gain maximum benefit from those opportunities.
- 8.1.5 Some of the procurement requirements arising in RP2 are likely to provide opportunities for new procurement approaches such as new forms of alliance. These more sophisticated procedures may involve new skills, changed roles, revised governance and new procedures. Early consideration and planning for these types of approaches will be essential if the potential maximum potential is to be achieved.
- 8.1.6 A further key issue during RP2 will be the consequences for procurement arising from the position on Brexit. The current EU procurement directives will presumably be
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incorporated into UK law by the EU Withdrawal Bill. However, there is much uncertainty now about the outcome of Brexit negotiations, and there is a range of risks and opportunities which Highways England should consider and be ready to address. These could include the following:

- potential changes to the Procurement Regulations (post-Brexit) to do more to support UK economic growth;
- impact of Brexit on EU companies involved in existing Highways England contracts;
- reduced competition if the UK market becomes less attractive to major European contractors due to UK regulatory changes;
- shortage of skilled workers due to potential immigration controls on EU workers;
- increasing prices due to possible tariffs on materials and products imported from EU;
- flexibility in contracts required to support possible increases in infrastructure investment programmes to support UK economic growth post-Brexit; and
- flexibility in contracts to accommodate changes in funding availability as a result of economic fluctuation post-Brexit.

8.1.7 A risk to the developing maturity and improvement of Highways England's procurement capability during RP2 will be the potential loss of key people over time. This could be retirement, resignation, career development or other reasons. In some cases, the more successful the organisation, the more likely it will be that key people are poached by other organisations or that individuals will seek to take advantage of their perceived higher worth. Whatever the reason, the impact of the loss of key people can be considerable and can represent a significant setback to the organisation. The need for succession and contingency plans, and an attractive offer to recruit and retain key people, becomes even more important if ongoing improvement is to be sustained.

8.1.8 A further consideration as the organisation moves into RP2 will be potential technology developments which could materialise in a number of forms;

- it could be new technology systems which help to improve traffic flow and the service provided to customers on the network. This could open new markets with new suppliers who are not familiar with Highways England's procurement methods and forms of contract. There could be the risk of limited competition and limited cost data to test value for money; and
- alternatively, new technology could support procurement and project delivery such as BIM developments in the area of virtual simulation to support construction planning and the handover of 'digital twins' to facilitate efficient operations.

Highways England will need to keep skilled resource requirements under review and seek to maintain a strong awareness of potential developments in these areas.

## 8.2. Service Area 3 Findings

### 8.2.1 The Review Team's Service Area 3 findings are:

- i. It can be expected that further organisational and procedural improvements will be supported during RP2 by the enhanced capability that is now being developed. The Review Team believes that Highways England has the leadership and is developing the capability to deliver more effectively and efficiently during RP2 which will also have benefits for the planning and delivery of RP3.
- ii. Opportunities for improvement and efficiency during RP2 will include:
  - careful and ongoing consideration of the typical areas of inefficiency that can occur on infrastructure related procurements set out in Section 3 of this report;
  - maintain close collaboration with other leading infrastructure clients to share lessons learnt and good working practices and to build these into new strategies and plans as opportunities arise;
  - the development of more effective long-term collaborative relations with suppliers identified as key strategic partners;
  - improved clarity of procurement policies and strategies to ensure full alignment of the supply chain with Highways England's corporate objectives; and
  - making supplier engagement and early contractor involvement even more effective through better dialogue on the full range of issues affecting the market.
- iii. Highways England should ensure that it is well prepared for opportunities that will arise during RP2 for the procurement of major programmes of work which will follow the conclusion of existing contractual arrangements. This should include being well prepared for any innovative procurement approaches that may be used such as new alliance models.
- iv. Highways England should also keep key strategic risks under review which could impact on procurement and delivery strategies. These could include the risk of losing key staff to other major programmes; issues arising from Brexit; and issues related to possible technology developments.

## 9. Service Area 4: Scope for Efficiency Gains from Capability Improvements during RP2

### 9.1. Approach to Service Area 4

- 9.1.1 The final part of this study has considered the potential level of efficiency improvement that can reasonably be expected from improvements to Highways England's

procurement capability during RP2. The assessment includes efficiencies enabled by procurement improvements, but which are delivered and measured by Highways England's delivery organisations. Benefits and efficiencies during RP2 will be derived from improvements implemented during RP1 and incorporated into the new Routes to Market procurement approach, which will deliver the RIS2 programme. Further efficiencies can be expected during RP2 arising from the ongoing commercial and procurement improvements during the remainder of RP1 and into RP2.

9.1.2 The Review Team's high-level approach to the assessment of the scope for efficiency gains from procurement capability improvements during RP2 has been:

- to consider the assessments of capability and improvement plans carried out as part of Service Areas 1, 2, and 3 to form a view on the maturity of Highways England's procurement capability and the potential for further improvements;
- to consider the further potential for improvements arising from the mitigation of risks associated with typical inefficiencies set out in Section 4;
- to consider opportunities for fully aligning future procurement strategies and procedures with recognised industry good practice as set out in Section 5;
- to review Highways England's approach to the measurement of efficiencies and its performance in delivering efficiency gains made during the delivery of RIS1, and assessing the expected position as Highways England moves forward into RIS2;
- to undertake academic research of studies that have looked at and quantified efficiency benefits achieved in related sectors from improved procurement capability;
- in setting out a range of potential efficiencies that could be enabled by procurement improvements, to highlight the risk of duplication of efficiencies that may arise from the two other capability workstreams;
- to take account of the practical challenges of achieving year-on-year efficiency savings including external risks and market factors outside of Highways England's control; and
- to use the extensive experience and professional judgement available in the Review Team, supported by the academic evidence, to take account of these factor and to develop a realistic estimate of the further achievable efficiency savings from procurement improvements.

9.1.3 The process for estimating potential efficiency gains arising from improved procurement capability is not a simple one and relies to an extent on professional judgement based on the available evidence. The potential improvement for procurement efficiencies is dependent on the current position of the procurement organisation in terms of its capability, how well it addresses potential typical inefficiencies and the maturity of its improvement plans. It also depends on the adequacy of its procurement strategies, procedures and plans as measured against recognised best practice. The achievement of efficiency savings also relies on having

strong relationships with a well-informed supply chain that has the capability and motivation to implement the desired improvements.

- 9.1.4 The current approach to efficiency measurement is set out in the Highways England *Efficiency and Inflation Monitoring Manual* and, in many cases, compares the pre-efficient and post-efficient estimated delivery cost. However, under the current methodology, it is difficult to attribute the proportion of these efficiencies that arise from improved procurement capability. It is therefore important to recognise that a significant proportion of efficiencies measured at the delivery stage are enabled by the processes and opportunities that result from better procurement capability. Alongside this review, there have been other capability reviews which have examined the potential for improvement from programme/portfolio management and asset management. Clearly, it will be important for Highways England and ORR to ensure that there is no duplication in the estimation of potential efficiencies across the three areas covered by the capability reviews. The most likely potential risk is that estimates produced by the other two workstreams include potential efficiencies which are enabled by improvements to procurement strategies or procedures. The Review Team also considers it will be important that the organisations develop a good understanding of potential improvements to business enablers that could be delivered by improvements to procurement.
- 9.1.5 It is also necessary to consider the type of efficiency that may be achieved from the introduction of further improvements. Cost efficiencies can, at a high level, be classified into resource and capital cost savings, although the current RIS1 efficiency target relates only to capital cost savings. Overall efficiencies can be assessed as cost savings or better value being delivered from time, cost and quality improvements. If robust cost information supported by a reliable baseline is available, an estimate of potential cost savings could be attempted arising from client resource costs, supply chain overhead costs, construction costs covering labour, plant and materials and longer-term maintenance and operational costs. This however, would be a time-consuming exercise and is unlikely to produce very reliable results because of the large number of uncertainties and assumptions that would have to be made.
- 9.1.6 In looking at the scope for efficiencies that could be achieved by Highways England during RP2, it is also necessary to consider the baseline that will be used to measure efficiencies in delivering RIS2. When Highways England was established the Government set out its aspiration of achieving at least £2.6bn efficiency over 10 years, including the £1.2bn target set for RIS1. The *Efficiency and Inflation Monitoring Manual* is clear that the baseline for RP1 efficiencies is the start of the road period. If a similar approach is taken for RP2 then the efficiency target for RIS2 will be significantly more challenging as the RIS1 efficiencies will be banked and included in the baseline. In other words, the 'low hanging fruit' will already have been collected. In arriving at its analysis, the Review Team has made the working assumption that a new efficiency baseline will be established for RIS2.
- 9.1.7 In addition to cost savings, efficiencies may arise in the form of the delivery of enhanced client objectives, i.e. better outcomes for the same money, and the earlier delivery of project objectives through time savings. These are often non-cash-releasing. The estimation of these types of improvement relies on robust performance benchmarks against which to measure improvements and involves a degree of professional judgement to provide objectivity.

9.1.8 As highlighted in para 9.1.3, it is very difficult to quantify/estimate specific efficiencies arising from particular procurement capability improvements. Accordingly, our approach has been to categorise and rank identified potential inefficiencies and improvements. We have then examined evidence on potential efficiency gains from industry reports, academic studies and feedback from other recent infrastructure programmes. This has been assessed against our understanding of Highways England's current capability together with an assessment of the impact of their ongoing improvement plans. Further detail on our approach to the estimation of the scope for efficiency from procurement improvements is set out below.

## 9.2. Detailed Assessment of Potential Efficiency Ranges

9.2.1 Academic Note 6 examines the evidence from related sectors which identifies potential savings and efficiencies that can be delivered from procurement improvements. The main findings are:

- The 2010 Infrastructure Cost Review, produced by HM Treasury and Infrastructure UK, concluded that infrastructure costs can be reduced by at least 15 per cent across the forward ten-year investment programme.
- There is convincing evidence that procurement procedures at different stages of the procurement lifecycle have a well-established link with impact on the following project performance criteria: cost; time; quality; environment; work environment; and innovation. By examining Academic Notes 1 to 6, it can be concluded that significant efficiencies can be achieved by pursuing strategic areas of best practice.
- According to the studies summarised in Academic Note 6, a total range of 0-30% efficiencies are possible, but this will depend on the current client capability and maturity, as well as the trajectory of development. Within this total range, it is likely that there are levels or bands of efficiency savings that are realistic for an organisation to achieve. Evidence suggests that a more typical distribution of potential savings is estimated to be between 0.3% and 18.3% with an average of 7.3%. A further industry report reviewed in Academic Note 6 finds that the majority of procurement leaders are able to report annual savings of between 5 – 10%. This does however, need to be considered in the context of other evidence relating to total achievable savings and the maturity of the capability of the organisation.
- The Review Team has set out in section 8 some issues and risks relating to the development of procurement capability to the end of RP2 which could impact on the estimated range of efficiency savings. Also, as set out in section 9.1, we would emphasise that the estimated efficiency range includes procurement's role as an enabler for efficiency delivered by other parts of the business. It is important therefore, to ensure that there is no duplication of efficiencies identified by the other two capability review workstreams commissioned by Highways England and ORR.

9.2.2 In reaching a view on the scope for efficiency gains from procurement capability improvements during RP2 the Review Team has taken account of the issues set out above. These include areas of uncertainty which in the Review Team's opinion should

be reflected in the setting of a realistic target for the delivery of efficiency savings. Particular areas of uncertainty include:

- Measurability of efficiency savings:
  - efficiency savings may not be detected by the existing efficiency methodology;
  - efficiency savings cannot be correctly apportioned by efficiency methodology (between procurement and other workstreams);
  - efficiency savings may overlap or be duplicated in other workstreams; and
  - in overall terms, it may not be possible to measure everything, and it may not be possible to attribute measured efficiencies to specific initiatives to improve capability.
- Quantification of efficiency target:
  - the working assumption that the efficiency baseline will be re-set to the start of RP2 (see para 9.1.6); and
  - uncertainty about the relative level of Highways England's capability maturity at the new baseline compared to the starting point for academic studies which have provided evidence to support the potential for efficiency savings.

### 9.3. Service Area 4 Efficiency Scope Findings

- 9.3.1 Taking account of all the data collected; the evidence studied; our assessment of the capability and maturity of Highways England's procurement organisation; the opportunities to address the identified typical inefficiencies and to further align with recognised good practice; and the identified uncertainty in the measurement and quantification process, the Review Team considers that capital cost efficiency savings in the range of 6% to 9% enabled by procurement capability improvements could potentially be realised during RP2.

## Appendix A Comments on HE's CIPS Assessment Report

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
<b>CIPS Dimension 1 – Leadership and Organisation</b>		
1.1.1	Senior Management Team member(s) have taken clear ownership of procurement matters.	Demonstrated
1.1.2	Procurement is recognised as a deliverer of value at a senior level.	Demonstrated
1.1.3	The procurement leader has been clearly identified and their role has been communicated to the organisation.	Demonstrated
1.1.4	The procurement leader is responsible for the procurement process across the organisation.	Demonstrated
1.2.1	Reporting lines for the head of procurement to the Senior Management Team are clearly defined.	Demonstrated
1.2.2	Clear reporting lines for staff engaged in procurement exist whether direct line reporting or functionally reporting to the Head of Procurement.	Demonstrated
1.2.3	There is alignment between procurement and other supply chain related processes.	Demonstrated
1.3.1	Formal delegations of authority have been developed, communicated and embedded.	Demonstrated
1.3.2	Individuals are formally notified of their delegation.	Demonstrated
1.3.3	Table of delegations has been effectively communicated across the organisation to all Stakeholders.	Demonstrated
1.3.4	A review process is in place to establish that delegations of authority have not been exceeded.	Demonstrated
<b>CIPS Dimension 2 – Strategy</b>		
2.1.1	The strategy, objectives and targets expected of the procurement function are clearly communicated from the procurement leader.	The assessment says this is demonstrated although HE's strategy and objectives are spread across a range of documents rather than a specific procurement policy and strategy document.
2.1.2	There is a clear structure of policies, strategies, procedures and processes.	The assessment says this demonstrated but policies are spread across a number of documents and the external policy documents may not be comprehensive.
2.1.3	There is ownership for the procurement policies, strategies, procedures and processes to be maintained and updated regularly and communicated to all relevant parties.	The organisational structure sets out where ownership of these aspects lies but communication arrangements, particularly to the supply chain, are not clear.
2.1.4	Procurement policies, strategies, procedures and processes are communicated, consistent and aligned.	As above
2.2.1	There is a clear alignment between the procurement strategy and the organisational strategies.	The assessment says this is demonstrated but evidence doesn't identify a specific

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
		procurement strategy document and the 2009 strategy has not been formally withdrawn.
2.2.2	The objectives of the procurement function clearly align with the procurement strategy.	This states that the procurement strategy is contained in the <i>Supply Chain Strategy 2015</i> and the <i>Procurement Plan 2015-2020</i> .
2.2.3	The objectives of individual team members clearly align with the objectives of the procurement strategy.	Demonstrated although it is not clear from the evidence precisely what the procurement strategy is.
2.3.1.	There is a procurement policy which meets local, regional, national and international legislation, regulation and other requirements.	Evidence states that HE does not make policy despite their Framework requiring them to produce and adhere to their own policies.
2.3.2	The objectives of the procurement function clearly meet local, regional, national and international legislation, regulation and other requirements.	Demonstrated
2.3.3	The objectives of individual team members clearly meet local, regional, national and international procurement legislation, regulation and other requirements.	Demonstrated
2.4.1	There is consultation with key stakeholders in the development of procurement policy and procedures.	The evidence is not clear. It says that HE consults stakeholders and suppliers on the development of procurement policy although the evidence also says they do not make policy.
2.4.2	The high-level procurement policy is communicated across the organisation and to stakeholders.	The evidence states that HE has undergone huge change and has updated and widely communicated their high-level procurement policies. It is not clear however, exactly which documents containing policy have been communicated.
2.4.3	The procurement procedures are communicated across the organisation and to stakeholders.	Demonstrated
2.4.4	Procurement staff are fully aware of changes in policy and the implications of such a change.	It is difficult to confirm that staff are fully aware of changes to policy when there isn't a clear single policy document. CIPS evidence refers to CCS and DfT policy being cascaded down to staff but it appears that some of these documents are guidance rather than mandatory.
2.5.1	A procurement policy has been developed, communicated, and is embedded within the organisation.	Evidence refers to Government policy being embedded into HE documents but there is no specific procurement policy document.
2.5.2	The Procurement Policy and compliance against the policy is regularly reviewed.	As above and it is more difficult to review compliance when it is spread across a range of documents.
2.5.3	The overall vision of the Procurement function is clearly defined.	The evidence states that this achieved in the HE Strategic Business and Delivery Plans 2015/16 and the <i>Procurement Plan 2015-2020</i> . Elsewhere the evidence states that objectives are provided in the <i>Supply Chain Strategy 2015</i> and the <i>Procurement Plan 2015-2020</i> . The <i>Supply Chain Strategy 2015</i>

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
		is not fully clear as the factors set out for determining best value are different to the strategic outcomes used to measure performance and assess tenders.
2.5.4	A commitment to legal compliance and ethical behaviour is clearly stated.	Demonstrated
2.5.5	A clear separation of duties is defined.	Demonstrated
2.5.6	The organisation has a strategy which encourages the potential use of under-represented suppliers in achieving the best outcomes.	The evidence defines under-represented suppliers as SMEs whereas it should also refer to other minority groups.
2.6.1	An ethical behaviour policy has been developed, communicated and is embedded within the organisation.	The evidence refers to many documents and processes which include statements on ethical behaviours but there does not appear to be an overarching ethical behaviour policy.
2.6.2	The ethical behaviour policy has been developed following consultation with recognised codes of ethics.	As above
2.6.3	The ethical behaviour Policy is communicated across the organisation to all Stakeholders.	As above
2.7.1	Procurement objectives have been developed, communicated and embedded.	The evidence refers to a wide range of documents which include statements on objectives but not a specific document which pulls them together in a single and consistent set of objectives (see 2.5.3).
2.7.2	The Procurement objectives are regularly updated to take account of organisational and external issues.	This refers to the <i>Procurement Plan 2015-2020</i> containing procurement objectives being reviewed six-monthly, but the updating appears to relate to the programme rather than objectives.
2.7.3	The procurement objectives are aligned with the procurement strategy, which are in turn aligned with the overall vision and mission.	This refers to the procurement objectives being in the <i>Supply Chain Strategy 2015</i> which is inconsistent with 2.7.2 which refers to the objectives being in the <i>Procurement Plan 2015-2020</i> . The SCS does not appear to clearly set out specific procurement objectives.
2.7.4	The procurement function has developed relationship management objectives to engage with internal and external stakeholders.	The CIPS Assessor's comments indicates that this is a developing area and so potentially this is an area for further improvement.
2.8.1	The policies and procedures for the procurement function encourage value for money.	Demonstrated
2.9.1	A policy and process for managing IP has been developed communicated and embedded.	Demonstrated
2.9.2	The IP is communicated to all Stakeholders including suppliers.	The evidence says that IP requirements are set out in all contracts which is not quite the same as communicating the policy – what about suppliers who are interested in bidding and do not have access to contract documents?

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
2.10.1	Controls have been developed, communicated and embedded for the storage and retention of records.	Demonstrated
2.10.2	The time for the retention period has been defined.	Demonstrated
2.11.1	The organisation has identified management actions to improve practices relating to sustainable procurement.	The assessment says that the Sustainable Development Strategy full release should be reviewed at the next full Certification review. So, this is work in progress.
<b>CIPS Dimension 3 – People</b>		
3.1.1	The Senior Management Team demonstrates support of the procurement function and its contribution to commercial decision making.	Demonstrated
3.2.1	The procurement leader has the appropriate levels of skills for the needs of the organisation.	Demonstrated
3.3.1	A process is in place, which allows assessment of demonstrable procurement knowledge and skills.	Demonstrated
3.3.2.	The process covers all staff who carry out tasks in the procurement life-cycle (including Contract Management), whether direct line reporting or functionally reporting to the procurement lead.	This criterion includes contract management which, apart from the generic NEC e-learning, doesn't appear to feature very much in the evidence or the assessment. We would have expected mention of tailored NEC training to cover HE's specific requirements and also possible accreditation associated with the various NEC roles.
3.3.3	There are regular appraisals which consider any identified skills gaps and puts plans in place to achieve any agreed targets and remedy any shortcomings.	Appraisals take place, no specific reference in the evidence to contract management training.
3.4.1	There is a process for reporting ad hoc sustainable procurement issues through to senior management level.	Demonstrated
3.4.2	Identified procurement staff have been provided with sustainable procurement training.	The assessment suggests that HE could provide more tailored training.
<b>CIPS Dimension 4 – Processes and Systems</b>		
4.1.1	There is a clear and documented process for sourcing activities.	Demonstrated
4.1.2	Tools have been used to help develop sourcing strategies from which the process is developed.	Demonstrated.
4.1.3	Sourcing strategies are formally approved.	Demonstrated
4.2.1	There is a requirement for a business case before embarking on a strategic purchase.	Demonstrated
4.2.2	There is a clear decision-making process for the procurement approach adopted for each category of spend.	Demonstrated
4.2.3	There is a clear decision-making process for the type of contract to be used.	The assessment says the criterion is demonstrated although the comments seem

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
		to relate more to the procurement route rather than the type of contract.
4.2.4	There is a clear process of procurement risk assessment and mitigation for each category of spend.	Demonstrated
4.2.5	There is a clear process for deciding on the appropriate form of contract and terms and conditions.	The assessment says the criterion is demonstrated although there does not appear to be any evidence on changes to standard conditions e.g. NEC Z clauses.
4.2.6	Stakeholder's have been identified and appropriately involved in the development of category/spend strategies.	Demonstrated
4.3.1	Specifications/scope of work are clear, concise and enable fair evaluation.	The assessment confirms there is good guidance in place for the development of specifications, but it doesn't confirm that the guidance is being applied well and producing good results.
4.3.2	The supply market has been defined and understood.	The assessment says that the criterion is demonstrated but no evidence seems to have been provided to demonstrate an understanding of the overall market including the lower levels of the supply chain.
4.3.3	Due diligence is applied to the selection of suppliers.	Demonstrated
4.3.4	There is a clear process for issuing, receiving and evaluating proposals, quotations and tender.	Demonstrated
4.3.5	Negotiations are carried out in accordance with best practice, legal and ethical requirements.	Assessment says this is demonstrated even though HE normally uses the Open procedure which does not involve negotiation.
4.3.6	A formalised procedure for awarding contracts and orders has been developed.	Demonstrated
4.3.7	Unsuccessful candidates have been contacted and notified.	Demonstrated
4.3.8	Supply chain limitations, including any outsourcing or offshoring limitations, have been identified and have been cascaded down to any sub-contractors.	Demonstrated
4.4.1.	The ownership and management of IP is clearly specified in all contracts.	Demonstrated
4.4.2	Confidentiality Agreements or Non-Disclosure agreements are used where appropriate.	Demonstrated
4.4.3	Commercial considerations of IP decisions have been made in conjunction with business stakeholders.	Demonstrated
4.5.1	A contract management process has been developed, communicated and embedded.	The assessment says that the criterion is demonstrated but embedment is by way of presentations and job descriptions rather than tailored training. Neither is it clear if there are different processes for the different types of contract used by HE for the different work programmes.

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
4.5.2	Contract progress is monitored.	Demonstrated
4.5.3	Change control is managed.	Demonstrated
4.5.4.	Contract performance and relationship management measures are in place.	Evidence appears to focus mainly on performance management rather than relationship management.
4.5.5	Risk is identified, managed and mitigated.	Demonstrated
4.5.6.	Procurement and supplier performance management measures are in place.	Demonstrated
4.5.7	Work approval processes have been developed (call-off of specific activities within services and works contracts).	Demonstrated
4.6.1	Payments are made in accordance with the contract terms and/or with agreement with the supplier.	Demonstrated
4.6.2	Formal separation of duties is in place which enables clear matching of requirement, commitment and payment.	Demonstrated
4.7.1	Records are kept in a safe, secure environment whether electronic or paper.	Demonstrated
4.7.2	Information is protected equivalently in all forms - electronically, paper, USB memory sticks, CD's etc and at all times-at rest, in transit, in envelopes etc.	Demonstrated
4.8.1	Key suppliers have been identified and assessed against agreed criteria (right sourcing).	Demonstrated
4.8.2	A regular audit process has been developed for the life of the relationship.	Demonstrated
4.9.1	Communications have taken place with key suppliers regarding supplier co-ordination opportunities.	Demonstrated
4.9.2	Key suppliers have been identified and assessed for suitability for involvement in supplier co-ordination activities.	Demonstrated
4.10.1	Key suppliers have been identified and assessed for suitability for development.	Demonstrated
4.10.2	Communications have taken place with key suppliers.	Demonstrated
4.10.3	Suppliers with high sustainability/risk impacts have been identified and are being encouraged to work in partnership working towards improvement objectives.	Demonstrated
<b>CIPS Dimension 5 – Performance Measurement and Management</b>		
5.1.1	The organisation's Business Plan specifically refers to the role of the Procurement function in achieving its objectives.	Demonstrated
5.1.2	The Procurement function's own priorities have strategic objectives directly aligned to those of the Organisation.	Demonstrated
5.1.3	The Procurement function is measured for achievement.	Demonstrated

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
5.2.1	The Procurement Strategy details specific goals and objectives.	The assessment says this was demonstrated even though the evidence refers to the <i>Supply Chain Strategy 2015</i> and <i>Procurement Plan 2015-2020</i> , rather than a specific procurement strategy.
5.2.2	The objectives of the procurement function are objectively measured.	The assessment says this is demonstrated although the evidence appears to be a combination of objective and subjective measures. It is not apparent whether the objective measures comprehensively cover the value delivered by the procurement function.
5.2.3	The organisation has identified and improved on sustainability/risk objectives.	The assessment says that the implementation of HE's Sustainable Procurement Policy will need review at the next full assessment.
5.3.1	A mechanism for capturing and monitoring compliance with the code of conduct has been developed.	Demonstrated
5.3.2	A review process is in place to establish that hospitality and declarations of interest have been formally recorded	Demonstrated
5.4.1	A process is in place to audit/review the efficiency and effectiveness of the Procurement function.	The evidence on audit appears to relate mainly to compliance with process rather than efficiency or effectiveness in terms of delivering best value contracts.
5.4.2	A review process is in place to establish that delegations of authority have not been exceeded.	Demonstrated
5.4.3	A process is in place to ensure that robust and effective governance is in place through adherence to legal, organisation and ethical standards.	Demonstrated
5.4.4	Action plans are developed and completion dates are agreed and monitored.	Demonstrated
5.5.1	Contract performance management measures are in place.	Demonstrated
5.5.2	Risk of poor contract performance is measured and managed.	Demonstrated
5.5.3	Key Performance Indicators (KPI's) have been developed that can be monitored over the life of a contract such as quality, time and cost, KPI's in specifications, contracts or Service Level Agreement's (SLA's).	Demonstrated
5.6.1	A continuous improvement process has been developed with key suppliers.	Demonstrated although the evidence is totally reliant on the StART process which does not have a clear role in future procurements.
5.6.2	Measures and objectives have been agreed and communicated on both performance and delivery with suppliers.	Demonstrated
5.7.1	Calculating the risks across their supply chains against severity, likelihood and impact.	The assessment says this is demonstrated although the evidence refers to the

<b>Table A1 Comments on Highways England's Standard CIPS Assessment Report</b>		
<b>CIPS Ref.</b>	<b>CIPS Capability Requirement</b>	<b>Comment on HE's assessment</b>
		management of risks at a project level rather than at a strategic or programme level.
5.7.2	A plan resulting in actions to mitigate and/or manage potential risk has been developed.	As above, done at a project rather than programme level
5.8.1	Process improvement techniques have been adopted.	Demonstrated
5.8.2	A universal supplier measurement approach has been developed to ensure purchases are measured against the same criteria.	Demonstrated

## Appendix B Comments on Requirements for the CIPS Advanced Level Standards

Table B1 Comments on Requirements for the CIPS Advanced Level Standards		
CIPS Level	Capability to be Demonstrated for the Relevant CIPS Advanced Level Standards	Review Team Comments
<b>Dimension 1 – Leadership and Organisation</b>		
<b>1.1 INFLUENCE TO THE BUSINESS STRATEGY AND THE EXECUTIVE TEAM</b> ...the procurement leader is seen as a key influencer to the business strategy and the executive team.		Highways England has demonstrated full achievement of this dimension at the Standard level. The ongoing C&P Evolution programme has potential for further improvements in this area which should lead to future efficiencies.
Advanced Level (Silver)	1.1.1 - The procurement leader is personally invited to executive meetings in order to present regular updates on the progress of the procurement strategy and plan achievement.  The role of procurement in strategic analysis of e.g. Make vs Buy decisions is clearly recognised and the procurement leader is invited to participate in and potentially lead these reviews.	HE can demonstrate this already applies.
Leading Level (Gold)	1.1.2 - The procurement leader utilises a range of informal and formal engagements with other executives within the organisation to proactively enhance both their personal profile as well as the profile of procurement.  The leader is well respected and they are frequently consulted to add value to business strategy development.	It would appear that HE should be able to demonstrate claim that this already applies.
World Class Level (Platinum)	1.1.3 - The procurement leader is seen as having a vital input to business strategy review and development.  They inform the business through clearly understanding and interpreting supply market developments and capabilities and being able to model future scenarios.  Their level of business awareness is seen as being significant within the organisation and as such they are expected to contribute to all types of strategy reviews.  There is clear evidence of the value add of engaging the procurement leader in this context.	It would appear that one area for further development would be future supply chain scenario modelling.
<b>Dimension 2 – Strategy and Policy</b>		
<b>2.1 PROCUREMENT STRATEGY DEVELOPMENT AND IMPLEMENTATION</b> ...a clearly defined procurement strategy has been developed, and implemented.		This should be a significant area for ongoing improvement and efficiency as it relates to the strategies used to deliver the major programmes of work.

<b>Table B1 Comments on Requirements for the CIPS Advanced Level Standards</b>		
<b>CIPS Level</b>	<b>Capability to be Demonstrated for the Relevant CIPS Advanced Level Standards</b>	<b>Review Team Comments</b>
Advanced Level (Silver)	<p>2.1.1 - The formal procurement strategy has been clearly communicated, explained and agreed across the business and there is evidence that it is referred to and utilised by both the procurement team as well as the wider organisation.</p> <p>The procurement strategy has been communicated externally to appropriate bodies, e.g. suppliers.</p> <p>The strategy has considered both the short, medium and long-term vision and objectives for procurement.</p>	HE will need to assess and demonstrate that the supply chain has good clarity in their understanding of HE's strategies and the long-term vision for procurement.
Leading Level (Gold)	<p>2.1.2 - Formal procurement strategy has been challenged and reviewed by consultation with key internal stakeholders.</p> <p>The resultant strategy has been communicated across the business and externally.</p>	This is not much different from the Silver standard, but HE would need to be able to show how challenge has been applied in the development of future strategy.
World Class Level (Platinum)	<p>2.1.3 - The procurement strategy is clearly aligned with business and customer requirements.</p> <p>Where procurement strategy has been modified, there is clear evidence that this change has been driven by appropriate driving forces, e.g. business strategy.</p> <p>The procurement strategy drives alignment across the supply chains managed to fulfil organisational requirements.</p>	The challenge in achieving this criterion would be to demonstrate evidence in driving alignment across supply chains. There is a risk that the development of individual value chain plans for different investment areas may result in some inconsistent approaches that are not fully aligned.
<b>Dimension 3 – People</b>		This is an area where further ongoing improvement should lead to the delivery of efficiency improvements.
<b>3.1 TEAM DEVELOPMENT AND TALENT MAPPING</b> ...individual and team development and talent mapping implemented.		
Advanced Level (Silver)	<p>3.1.1 - The procurement, business, interpersonal and leadership competencies have been formally mapped against individual roles.</p> <p>Assessment takes place against these as well as individual performance against objectives.</p> <p>Personal development plans are evolved from this review process for each team member.</p> <p>The development plan will include self-development, a formal training programme as well as potentially coaching.</p>	This appears to be part of the ongoing procurement Evolution journey that is underway. HE should be able to demonstrate that this applies.
Leading Level (Gold)	<p>3.1.2 - Reviews of performance against objectives and competencies for team members is sought from internal customers and others to build a 360-degree feedback process.</p> <p>A talent mapping process has been developed for Procurement and the procurement leadership team review the performance of all team members and clearly map the future potential for each team member.</p>	Much of this would appear to be in place but the key aspect would require HE to demonstrate that the results are being reviewed and used in the mapping of future potential.
World Class Level	3.1.3 - A talent mapping process is effected across the organisation and is used to identify high potential	We are not aware that there is a formal process which address this

<b>Table B1 Comments on Requirements for the CIPS Advanced Level Standards</b>		
<b>CIPS Level</b>	<b>Capability to be Demonstrated for the Relevant CIPS Advanced Level Standards</b>	<b>Review Team Comments</b>
(Platinum)	<p>candidates from within procurement who will be developed across the organisation.</p> <p>It also identifies high potential candidates from outside procurement who will spend time within procurement as a part of their career development.</p> <p>Procurement experience is seen as necessary for future leaders.</p>	<p>criterion. This is an area that would be worth considering.</p>
<b>Dimension 4 – Processes and Systems (Sourcing &amp; Post-Contract Management)</b>		<p>Further improvement in performance in these areas should produce resource cost savings and result in improved contract outcomes.</p>
<p><b>4.1 PROCESS DEFINITION, GOVERNANCE AND COMPLIANCE</b> ... policies, strategies, procedures and processes have been communicated and formally acknowledged.</p>		
Advanced Level (Silver)	<p>4.1.1 - The procurement team are proactively updated on changes to the content of any policies, procedures and processes that are in place and formally acknowledge their revised responsibilities, especially with respect to legal, regulatory and contractual related requirements.</p> <p>The policies, procedures and processes have been regularly reviewed and endorsed by an appropriate third party.</p>	<p>This is an area where we consider that HE could improve the way it develops and communicates its policies and procedures. There should be performance and efficiency benefits in ensuring that the supply chain has full clarity on these aspects.</p>
Leading Level (Gold)	<p>4.1.2 - There is a formal communication process and training programme in place to other parts of the organisation who may come into contact with suppliers in performing their roles.</p>	<p>HE would need to demonstrate that across the organisation they are giving a consistent message to suppliers. It would be interesting to seek the supply chain's view on whether this is happening at present.</p>
World Class Level (Platinum)	<p>4.1.3 - The policies, procedures and processes are aligned across the organisation from end to end.</p> <p>An agile approach has been adopted to the development and implementation of policies, strategies, procedures and processes.</p>	<p>The lack of a clear policy document potentially gives HE a problem. We are not convinced that there is currently full alignment across the organisation. HE would also need to provide evidence on the agility of their approach.</p>
<b>Dimension 5 – Performance Measurement and Management</b>		<p>This is critical to efficiency, particularly benchmarking and identifying best practice</p>
<p><b>5.1 PROCUREMENT PERFORMANCE MEASUREMENTS</b> ...measurements have been identified, communicated and reviewed.</p>		
Advanced Level (Silver)	<p>5.1.1 - Procurement performance includes financial measures related to total cost of ownership and efficiency concepts.</p> <p>This will be based on agreed cost and value modelling and will be approved by the organisation.</p> <p>Where savings are achieved there are clearly communicated guidelines as to how the savings will be managed (e.g. whether budgets will be reduced).</p>	<p>HE's financial capability and systems have clearly improved considerably over recent years. It is not clear however, if it's financial measures would yet be considered to relate to the total cost of ownership.</p>

<b>Table B1 Comments on Requirements for the CIPS Advanced Level Standards</b>		
<b>CIPS Level</b>	<b>Capability to be Demonstrated for the Relevant CIPS Advanced Level Standards</b>	<b>Review Team Comments</b>
Leading Level (Gold)	<p>5.1.2 - Organisational metrics have been developed for procurement, agreed across departments to ensure consistency and accurate measurement.</p> <p>Current financial performance reporting will be available upon request by organisation management and will have a very high level of credibility.</p> <p>This data may well be used for business modelling.</p> <p>All reported measures are backed up by robust data and a process exists for capturing this data on a regular basis to feed into the reporting cycle.</p>	<p>HE would need to demonstrate that it's organisational metrics and data are sufficiently robust to achieve this criterion.</p>
World Class Level (Platinum)	<p>5.1.3 - Procurement performance is regularly benchmarked with third party organisations that are agreed as being appropriate and the feedback from these reviews is used to drive higher levels of performance.</p> <p>The procurement team are now forecasting future performance, focussing on releasing value, and this is being used to inform business strategy and decision making.</p>	<p>The Review Team has not seen any evidence to indicate that this type of benchmarking currently takes place.</p>

## Appendix C Typical Procurement Inefficiencies

The typical procurement inefficiencies table is based on the combined professional experience of the Review Team.

### Table Notes:

1. Describes the typical procurement inefficiencies that can occur within major infrastructure client organisations. The typical impact if such inefficiencies occur are shown for both the resource and capital budgets on a High (H); Medium (M) and Low (L) basis.
2. The areas that may be beneficial for Highways England to investigate and consider further are described and ranked in priority order. The priority ranking is as follows: (1) there may be significant potential for efficiency improvements; (2) there may be some potential for efficiency improvements; and (3) there may be limited potential for efficiency improvements.

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
<b>A. Procurement Leadership and Organisation</b>					
A1	Procurement silos (e.g. procurement undertaken on a project by project basis with no unified / matrix procurement organisation) with lack of clarity of roles and responsibilities.	M	M	Can result in all kinds of other problems. An organisation needs to be joined-up with consistency of approach and message. Clarity of roles is required to avoid duplication of effort. Strong leadership can mitigate potential problems. <b>HE position:</b> organisation changes well advanced towards a matrix management approach.	2
A2	Ineffective procurement leadership evidenced by poor communication of objectives, strategy and requirements, resulting in delivery teams demanding inconsistent and inappropriate procurement methods.	H	M	Strong leadership brings clear vision, strategy and communications. Builds trust and relationships with supply chain. <b>HE position:</b> CIPS assessment identifies this as a strength.	3
A3	Inadequate resources and capabilities in key procurement roles and a lack of resource resilience and contingency planning.	M	M	Can result in sub-optimal strategies and plans and additional time taken to progress procurement procedures. Can impact on the value delivered through procurement. <b>HE position:</b> vacancies being filled but with risk of losing staff to other employers.	3

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
A4	A lack of focus on procurement of high profile, complex projects and/or failure to ensure key resources are available at the right time.	M	H	The largest projects can divert resources away from other lower profile work. There can be benefit in establishing dedicated teams.  <b>HE position:</b> there is a risk that complex projects like Stonehenge and Lower Thames Crossing will have high resource demands that could impact on the delivery of other programmes.	2
<b>B. Strategy and Policy</b>					
B1	Lack of clear Client corporate policies and components of best value on which to align procedures and objectives, and/or policies and strategies not updated to reflect policy developments or recognised industry best practice.	H	H	Policy and strategy need to be clear to internal procurement teams and to the external supply chain. It is difficult to define and achieve best value if policy is not clear and the market has an inconsistent view. Clear responsibility required for owning and updating policy and strategy.  <b>HE position:</b> Policy and strategy is spread across a number of documents and does not appear to be comprehensive.	1
B2	Supply chain not aligned to deliver in line with client policy and objectives.	M	H	This is a consequence of not having a clear policy and strategy and/or not engaging with the market. Poor quality bids likely as a result.  <b>HE position:</b> feedback from industry is that whilst there is regular engagement, the communication of policy and strategy is not as clear as it could be.	1
B3	Overall approach creates confrontational rather than collaborative relationships, and culture and behaviours are not monitored and managed at a senior level.	H	H	The benefits of collaborative procurement strategies are well established.  <b>HE position:</b> HE are using collaborative procurement methods, but other clients are further ahead and using new methods such as alliances and new approaches to funded incentive mechanisms.	1
B4	Packaging does not align with market capabilities resulting in a lack of competition.	H	H	May force companies to come together in untested JVs. Too few tenderers will be likely to push prices up.  <b>HE position:</b> major projects generally attract good competition but some evidence to show that specialist frameworks for asset delivery models are attracting limited competition.	2

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
B5	Packaging does not provide flexibility to combine schemes across different programmes where this may provide better value or improved customer service.	L	H	Separate procurement for different programmes reduces opportunities to merge projects located in close proximity. <b>HE position:</b> programmes are generally procured separately with little flexibility to combine projects across programmes.	2
B6	Procurement strategy results in duplication of design through sub-optimal design maturity strategy (e.g. client design in too much details – duplication when it passes to D&B contractor).	H	H	Cost and time consequences if design is duplicated during the procurement and project development stages. <b>HE position:</b> there are different approaches to design strategy and design responsibility. It is not clear if there is a preferred approach.	2
B7	Innovation considered too late in the project development process.	L	H	Adequate time is required to allow innovative ideas to be demonstrated that they will work, are safe and will add value. Linked to ECI. <b>HE position:</b> a number of different methods are used to support innovative methods including category management.	1
B8	Unnecessary interface risks with too many small packages and interfaces.	H	H	A high number of package will increase procurement, tendering and contract management costs. Opportunities for improved purchasing leverage under a large contract are lost and interfaces more difficult to manage. <b>HE position:</b> mixed arrangements with some very large projects but some smaller packages used for regional and maintenance work.	2
B9	Short-term contracts result in multiple fragmented procurements, handover costs, and the potential loss of invested knowledge.	H	H	Short-term contracts represent a considerable lost opportunity in the form of successful long-term relationships being established with integrated supply chains. <b>HE position:</b> longer-term maintenance contracts are used by HE but these are not as long as some LA contracts. Frameworks such as CSF are used by Highways England for capital projects, but public sector Procurement Regulations restrict these to 4 years save for justified exceptional circumstances. HE could seek to justify longer-term frameworks or could consider longer-term contracts which are not restricted in duration.	1

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
B10	Lack of work continuity does not allow successful teams to be retained.	H	H	Peaks and troughs are inefficient in resource usage. Longer-term contracts with flexible programmes to provide continuity of work that allow resources to be utilised more productively will deliver projects more efficiently. <b>HE position:</b> continuity of work is generally restricted by the use of competitive tenders for nearly all projects, even under frameworks. Also, delivery programmes can have little flexibility to allow better timing of delivery.	1
B11	Infrastructure is not designed with ease of maintenance and whole life cost in mind.	M	L	Considerable scope for whole life cost savings albeit that the efficiencies will come from a different budget and in a different funding period. <b>HE position:</b> whole life costs are generally considered through the use of Standards rather than in the consideration of options for specific projects.	2
<b>C. People</b>					
C1	The capability of the organisation, in terms of its people skills and experience, does not support the delivery of the selected procurement strategy.	M	H	A lack of client capability would make it very difficult to deliver a best value collaborative procurement strategy. <b>HE position:</b> good capability is available within HE to deliver complex procurement strategies.	3
C2	Competition from other programmes being delivered by other clients results in the loss of key people or difficulty in recruiting skilled people to fill vacancies.	M	M	The loss of key staff to other projects such as HS2, can be very disruptive. <b>HE position:</b> it is understood that HE has lost some staff to other projects and despite not being able to compete on salaries with some other clients it does appear to be able to recruit to fill vacancies.	3
C3	Overall approach creates confrontational rather than collaborative relationships, and the people culture and behaviours are not monitored and managed at a senior level.	H	H	The benefits of collaborative procurement strategies are well established. <b>HE position:</b> HE is applying collaborative approaches to its procurements, albeit they are not as fully developed as some other clients.	1

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
C4	People in key contractual roles do not have appropriate experience or capability, or experienced staff are lost soon after a contract is awarded.	M	H	Capability needs to be tested as part of the evaluation procedure and mechanisms employed to ensure that key people are provided and retained.  <b>HE position:</b> people capability is assessed but it is not clear how reliable the assessments are.	2
<b>D. Processes and Systems</b>					
D1	<b>Tender processes</b> are too costly reducing the number of bidders or result in bidders submitting poor quality tenders.	M	H	Complex procedures take longer and involve more resource in their development. Reduced bidder appetite likely to result in higher risk premiums in prices and possibly reduced competition. Requires good engagement with supply chain to reduce risk.  <b>HE position:</b> tender procedures do incur relatively high costs. Position on the use StART is unclear which has involved suppliers in high costs to achieve a score.	2
D2	<b>Tender process</b> involving overly complex commercial submissions may result in bidder gaming / misunderstanding and risk of manifest error in Authority evaluation.	M	H	Complexity increases tender production and evaluation costs. Potential challenge risk if complexity leads to error or misunderstanding.  <b>HE position:</b> different approaches are used for different programmes, but some commercial models are quite complex.	1
D2 A	<b>Tender / Pre-Qualification Evaluation Process:</b> There is a risk of manifest error in Authority evaluation if evaluation, moderation and debriefing processes are not rigorously designed and robustly implemented with knowledgeable and well-trained evaluators.	M	H	The Energy Solutions EU Ltd vs Nuclear Decommissioning Authority illustrated the crucial significance of evaluation processes in a procurement challenge.  <b>HE position:</b> Good processes in place, but requires continuous focus on a procurement-by-procurement basis to avoid a costly challenge.	2

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
D3	<b>Contract award criteria:</b> too much emphasis on price rather than value in award procedures drives bad behaviours.	L	H	Low price tendering is likely to result in adversarial relationships, claims and disputes. <b>HE position:</b> the focus tends to be on quality but there can still be a significant weighting on price.	3
D4	<b>Tender promises</b> are not carried forward into contract and therefore not delivered on site.	L	M	The value obtained during the procurement process is not achieved if the contractor is not obliged to deliver promises. <b>HE position:</b> it is understood that some but not necessarily all tender promises are bound into contracts.	2
D5	<b>Assurance:</b> lack of independent assurance in the governance process of procurement plans / processes / documentation.	L	H	Potentially increases the risk of challenge and/or reduced value for money through the procurement process. <b>HE position:</b> it is understood that HE is considering the use of independent assurance but is not yet part of standard procedures.	1
D6	<b>Governance:</b> procedures not clear.	M	L	Can result in extra work during procurement procedures but unlikely to impact on outcome. <b>HE position:</b> new governance procedures are being implement but it is not known how efficient they are and how clear they are yet to the organisation.	2
D7	<b>Governance:</b> failure to allow sufficient time for processes, including assurance and governance in programmes.	L	M	Ineffective assurance and governance increases the risk of challenge. <b>HE position:</b> governance requirements are normally built into programmes but there are reports of delays on occasions.	3
D8	<b>Governance:</b> over-elaborate Governance with too many tiers and/or sub-optimal procurement delegations does not allow prompt decisions.	H	M	Can be a high impact on resource costs and could delay projects resulting in higher costs. <b>HE position:</b> some of the governance processes are viewed as being complex.	3

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
D9	<b>Governance:</b> Inappropriate involvement by senior stakeholders due to not being involved early enough or not being clear on processes and roles.	M	L	This can result in abortive or additional unnecessary work, but the impact can be mitigated by robust governance processes. <b>HE position:</b> no evidence to show this is a particular problem.	3
D10	<b>Governance:</b> Legal challenge or threat of challenge arising from poor process, assurance or governance leading to delay, extra costs and damaged reputation by failure to demonstrate that a compliant process has been followed.	H	H	Very high impact if risk occurs but mitigated by addressing above issues. Can result in big delays to projects. Good process gives supply chain confidence. <b>HE position:</b> HE has good process, but the lack of independence assurance does present a potential vulnerability to challenge.	2
D11	<b>Lack of market engagement</b> to assess issues and/or market appetite. Failure to address supply chain concerns may result in reduced competition or higher risk premiums.	L	H	Better informed plans and documents produced and barriers to competition and best value removed by effective engagement. <b>HE position:</b> HE provide good opportunities for engagement, but the supply chain considers that the nature and extent of the dialogue could be better.	1
D12	<b>Early contractor involvement:</b> ignoring the value of ECI in developing optimal solutions and allowing sufficient time for planning for construction.	M	H	The benefits of the early involvement of the supply chain are widely recognised including the potential for increased innovation and contractors having time to properly mobilise for construction. <b>HE position:</b> ECI is not fully applied as a principle across all procurement strategies.	1
D13	<b>Scope of work:</b> Poorly defined and / or incomplete scope arising from a lack of involvement by delivery teams or insufficient time allowed in the process	M	H	Likely to result in increased resource requirements during delivery to rectify problems. <b>HE position:</b> no clear evidence that this is a specific problem apart from comments about tight project development periods and a lack of assurance.	2

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
D14	<b>Scope changes:</b> Uncontrolled scope creep and change.	M	H	Changes during contracts are normally disruptive and expensive and could breach procurement regulations. Can be managed by effective project controls.  <b>HE position:</b> not examined in detail as part of this review it is understood that the need for change is common on projects.	2
D15	<b>Standards:</b> use of rigid standards rather than outcomes restricts design and innovation.	L	M	Can be mitigated by an efficient departures process but there may be a reluctance to approve changes to standards.  <b>HE position:</b> it is understood that some there is some move away from rigid standards to outcome based requirements.	2
D16	<b>Contract requirements:</b> too many plans required to be produced by the Contractor to unrealistic timetables at the start of construction.	M	M	Key resources may be diverted by administrative and bureaucratic procedures. Risk is mitigated by use of ECI which allows more preparation time.  <b>HE position:</b> the supply chain say this can cause problems on occasions depending on the overall programme of work but does not appear to be a major problem.	3
D17	<b>Budget management:</b> inadequate or unreliable budgets at the beginning of the procurement procedures.	L	H	Can result in unreliable business cases for investments introducing the risk of delays at key decision points if cost estimates rise. Can also undermine collaboration if budgets are inadequate.  <b>HE position:</b> HE's cost data and estimating procedures have improved in recent years which has supported improved budget management, but some problems do still occur. The review has not looked at the management of programme and project risk funds which are an important component of budget management.	2
D18	<b>Cost management:</b> contract does not make provision for transparency of cost and benchmarking and does not set efficiency targets.	H	H	Likely to result in the Client not fully understanding costs and not developing robust benchmarks which can be used to inform future estimates and demonstrate value for money.  <b>HE position:</b> HE's contracts incorporate open book accounting and HE now consider that it has robust cost data. Suppliers however, do not appear to be fully focused or incentivised on the delivery of efficiency.	2

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
D19	<b>Contracts:</b> inappropriate choice of delivery contract does not support collaboration.	H	H	A lack of collaboration may result in adversarial relationships which will result in claims, disputes and increased costs. <b>HE position:</b> HE generally use NEC based contracts which support collaboration but do not make full use of the partnering option or incentivised KPIs. The supply chain consider that collaboration is not working as well as it could.	2
D20	<b>Contracts:</b> non-standard contracts / Z clauses increase bid costs.	M	M	Use of non-standard contracts increases preparation costs, tendering costs and delivery costs. <b>HE position:</b> HE do use a significant number of NEC Z clauses but not worse than other clients. There does not appear to be a clear process for determining which should be used on a contract specific basis or whether they deliver value for money.	2
D21	<b>Contracts:</b> complex legal terminology leading to a lack of clarity.	M	L	Complicated language increases the risk of misunderstandings particularly in relation to risk allocation. <b>HE position:</b> HE generally uses the NEC contract which has simple language. Some risk of more complicated language in Z clauses.	3
D22	<b>Contract Risks</b> allocated to parties who cannot manage them, or risk allocation is not clearly defined in the contract.	M	H	Likely to result in risks not being effectively mitigated and interface risks being overlooked resulting in extra costs and delays. <b>HE position:</b> the NEC provides a shared allocation of risk which is normally fair. However, there are other risks created by procurement methods which can be unmanageable to the supply chain. For example, design risks at the handover of contracts without allowing time for proper due diligence can result in additional risk premiums.	2
D23	<b>Contract risks:</b> 'Employer-friendly' risk apportionment leads to contractors pricing in unnecessary risk premiums.	L	M	May be caused by clients wanting greater certainty of price even if the price does not represent best value for money because of high risk premiums. <b>HE position:</b> this does not appear to be major problem, but the risk may apply to some Z clauses.	3

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
D24	<b>Contract risk:</b> contract encourages reactive rather than proactive risk management provisions with no early warning arrangements.	M	H	It is much more cost effective to avoid or mitigate risks before they occur. Early warning provisions in the contract such as in the NEC are very beneficial.  <b>HE position:</b> the NEC contains early warning procedures, but the review did not examine how well the procedures are working. The supply chain report that collaborative working could be better which may also apply to early warning and risk management.	2
D25	<b>Contract incentives:</b> tier 2 contractors are not properly rewarded or incentivized for their input into designs.	L	H	Innovative and buildability ideas often come from the lower tiers of the supply chain.  <b>HE position:</b> incentive arrangements do not generally extend into the lower levels of the supply chain. Subcontractors are generally not engaged early in project planning although there have been improvements in through category management arrangements.	1
D26	<b>Contract incentives:</b> propensity for contractor experiencing pain (e.g. on a target price contract) to invent compensation events.	M	H	Linked to other issues such as low tenders or poor scope. May also arise from a failure to administer the contractor in the manner intended including contractual controls on CEs. The risk is one of bad behaviours being encouraged.  <b>HE position:</b> the review has not examined this in detail and it has not been highlighted as a specific problem. HE's approach to negotiating target prices helps to minimise the problem.	3
D27	<b>Contract incentives:</b> lack of incentives to promote delivery to programme and budget, and to support collaboration with other contractors where there is a programme of work.	L	H	This relates to potential opportunities for efficiencies across a programme of work not being realised.  <b>HE position:</b> programme incentives have been used but feedback from CDF indicates they may have been over-complex and there was room for improvement. With the long-term funding for work programmes this is likely to be an important aspect.	1
<b>E. Performance Measurement and Management</b>					
E1	Performance improvement not supported by continuous improvement and efficiency targets.	M	H	This is particularly important on long-term contracts which provide the opportunity of work continuity and increased innovation.  <b>HE position:</b> incentive schemes are used but there does not appear to be a strong focus on long-term opportunities and efficiency.	1

Table C1 Typical Inefficiencies and Priorities Areas for Highways England to Consider					
Ref No.	Typical Inefficiencies & Impacts <sup>1</sup>			HE Potential <sup>2</sup>	
	Issue	Impact		Comment on the typical inefficiency and Highways England's position	Priority for HE to Review
		Resource	Capital		
E2	Failure to administer contracts properly leading to prolonged settlement of commercial issues and disputes.	M	H	Sufficient resources are required to administer the contract correctly. Failure to do so will require more resources to resolve problems. <b>HE position:</b> the review has not examined this in detail, but no evidence has been provided to indicate a significant problem.	3
E3	Poor site supervision leading to defects and quality issues.	M	M	Supervision being replaced by self-certification. Procurement process should test contractors' QA and certification systems. Resource savings if supervision reduced. <b>HE position:</b> HE generally rely on quality procedures including self-certification.	3
E4	Supply chain performance measures and incentives not well aligned with client objectives (such as design to budget, build to budget or collaboration incentives).	H	H	Contractual incentive mechanisms need to be carefully considered, modelled and kept as simple as possible. Inadvertently encouraging the wrong behaviours or priorities can be very damaging. <b>HE position:</b> this is linked to other incentive issues set out in this table. A review of the overall operation of incentives would be beneficial to ensure they are as simple and effective as possible with resources focused on the priority outcomes.	1

## Appendix D Highways England Supply Chain Strategy 2015

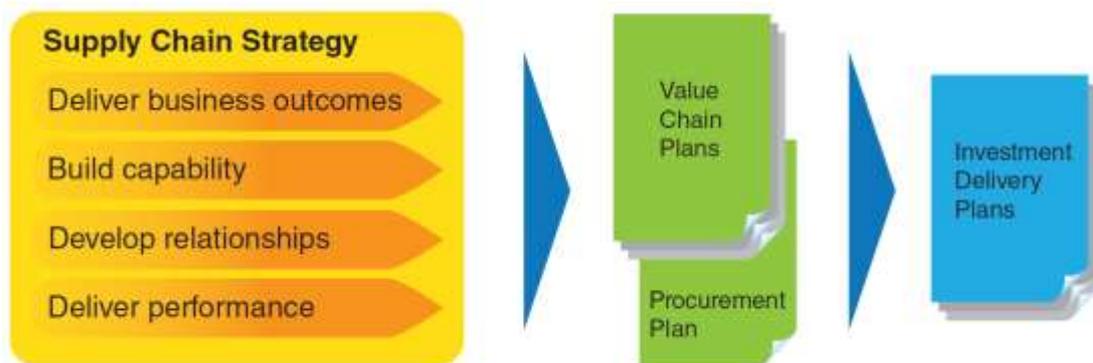
The *Supply Chain Strategy 2015* sets out how Highways England will work with suppliers to meet the challenge through the RIS in terms of investment, performance improvement and transforming road user experience through operation of the strategic road network. The *Supply Chain Strategy 2015* refers to three types of plan that will implement the strategy, which are listed and described below:

- Value Chain Plans
- Procurement Plan
- Investment Delivery Plans

Value Chain Plans focus on the priority areas where Highways England and suppliers will work on together to create better value on specific areas of investment. A suite of Value Chain Plans will develop over the investment period.

The Procurement Plan is the practical application of the *Supply Chain Strategy 2015*, which gives visibility of Highways England's procurement intentions over RIS Road Period 1. The latest published version of the *Procurement Plan 2015-2020* is Version 6, dated November 2017, which will be updated though Road Period 1.

Investment Delivery Plans, which support the investment decision processes as set out in the *Supply Chain Strategy 2015*, will reflect the *Supply Chain Strategy 2015*, Value Chain Plans and the *Procurement Plan 2015-2020* as investments are brought forward for approval. The relationship between the *Supply Chain Strategy 2015* and other implementation plans is shown in Figure D1.



**Figure D1** - Relationship between the Supply Chain Strategy and Plans

Highways England's *Supply Chain Strategy 2015* sets out the direction of travel and explains that Value Chain Plans will set out the specifics for procuring and delivering improved performance. The four principles of the *Supply Chain Strategy 2015* are:

- Delivering business outcomes
- Building capability
- Developing relationships
- Delivering performance

Table D1 provides a summary of the approaches associated with each of the four principles of the *Supply Chain Strategy 2015*.

<b>Table D1 Supply Chain Strategy – Principles and Approaches</b>	
<b>Principle</b>	<b>Summary of Approach</b>
Delivering business outcomes	<p>Highways England will make best use of the increased certainty of long-term funding to enable better journeys on better roads with improved service to customers.</p> <p>The priorities during the first road investment period are to:</p> <ul style="list-style-type: none"> <li>• Address the step-up in performance;</li> <li>• Deliver a significant ramp up in investment; and</li> <li>• Create the right foundations for later investment periods</li> </ul>
Building capability	<p>In building capability Highways England will progressively balance and build the core capabilities and competencies we need to respond with:</p> <ul style="list-style-type: none"> <li>• greater ownership of front end strategic direction and planning</li> <li>• more active ownership in options development and investment decision making</li> <li>• more influence in driving efficient and effective delivery</li> <li>• better leadership in integrating assets into operation to better fulfil service delivery to users</li> <li>• more informative customer insight</li> </ul> <p>Highways England will grow its capability and progressively this will over time change the balance of capability with highway suppliers.</p>
Developing relationships	<p>In developing relationships Highways England will:</p> <ul style="list-style-type: none"> <li>• Change the way they work with highway suppliers moving from managed contracts to developing more efficient peer to peer relationships with highway suppliers where value is added;</li> <li>• Streamline its processes to obtain more value and productivity from the people already in our organisation and our supply chain;</li> <li>• Work with highway suppliers and wider industry to identify capability and capacity gaps and then implement plans to address these including apprentice and graduate plans; and</li> <li>• Diversify its capability to bring fresh perspectives that open innovation and bring greater insight into different customer populations.</li> </ul>
Delivering performance	<p>To deliver performance, Value Chain Plans will be developed to eliminate waste (cost, time, quality) and access innovation and improvement. Intelligence jointly developed by Highways England and highways suppliers will shape actions to adopt better practices and products and to deliver better solutions and services.</p>

## Appendix E Highways England Procurement Plan 2015-2020

Highways England's *Procurement Plan 2015-2020* is the practical application of the *Supply Chain Strategy 2015*, which sets out its purchasing intentions over the period of the Road Investment Strategy (RIS) period 1 2015 to 2020. It is an evolving document and will be refreshed on a rolling basis.

The key commercial principles set out in the *Procurement Plan 2015-2020* are described in Table E1:

Table E1 Highways England <i>Procurement Plan 2015-2020</i> Key Commercial Principles	
Principle	Description
<b>Measuring and incentivising performance</b>	<ul style="list-style-type: none"> <li>In a collaborative working environment Highways England will share commercial intelligence with its supply chain.</li> <li>Highways England will set incentivised targets for continuous improvement on performance, time, cost and quality will drive efficiency.</li> <li>Highways England will measure what they value and use unit cost and time metrics to measure efficiency, share best practice and drive effective business decisions based on value in delivering whole-life solutions.</li> </ul>
<b>Focus on understanding and creating value.</b>	<ul style="list-style-type: none"> <li>Highways England will engage with all tiers of the supply chain to understand the value they create, to concentrate on their outputs and efficiency rather than commercial leverage through the lower tiers.</li> <li>Highways England will continue to use appropriate commercial tension to demonstrate that best value is maintained.</li> </ul>
<b>Creating a growth and efficiency environment.</b>	<ul style="list-style-type: none"> <li>To create an environment for growth and efficiency Highways England will create better value by removing waste and adding innovation with a sustainable level of quality, using a right first time, one team approach.</li> </ul>
<b>Creating integrated delivery teams</b>	<ul style="list-style-type: none"> <li>Highways England will create integrated delivery teams with the supply chain to create a singular commercial approach. This will support assurance and create efficiency by removing duplication of effort.</li> <li>Client and contractor roles will be transitioned by collaborative behaviours where the best delivery team uses the most effective personnel.</li> </ul>

In addition to the key commercial principles, the *Procurement Plan 2015-2020* sets out key factors that will inform Highways England's procurement approach, which are described in Table E2.

<b>Table E2</b> <b>Highways England Procurement Plan 2015-2020</b> <b>Key Factors that will inform Highways England's Procurement Approach</b>	
Key Factor	Description
<b>Moving from projects to programmes</b>	Highways England will structure capital expenditure through longer-term programmes of work, which will enable suppliers to commit resources and is expected to make a significant contribution to the £1.2 billion efficiency savings.
<b>Incentivisation</b>	To promote collaboration throughout the supply chain, stimulate innovation and reduce overall programme costs Highways England will, wherever appropriate and possible: <ul style="list-style-type: none"> <li>• Include financial incentives in their contracts, which will encourage suppliers to reduce the impact on customers and promote whole-life value.</li> <li>• Consider the application of flexible incentives at multiple levels within tasks, programmes and outcomes.</li> </ul>
<b>Developing skills and diversity</b>	Highways England will work together with the supply chain to: <ul style="list-style-type: none"> <li>• Create working cultures that allow everyone to perform to their potential.</li> <li>• Set clear, consistent and stretching equality, diversity and inclusion requirements to drive the right behaviours.</li> <li>• Identify cross sector initiatives that will help to promote the highways sector and leave a lasting impact.</li> </ul>
<b>Removing barriers to innovation</b>	Highways England want to remove any barriers to innovation and are working with the supply chain to explore together how they can create the right environment to support and increase innovation to deliver better outcomes.
<b>Creating value chains</b>	Highways England value chain plans will inform our procurement strategies.
<b>Performance management</b>	Performance metrics will focus on the things that matter most and Highways England will: <ul style="list-style-type: none"> <li>• Expect high standards and quality of work from their supply chain</li> <li>• Expect to reward excellent performance – reward will be generated from savings delivered through performance and successful outcomes</li> <li>• Align the performance management process with the five strategic outcomes and will work with highways suppliers to explicitly link tender assessment and award criteria to the delivery of the five strategic outcomes.</li> </ul> <p>Suppliers who fall below Highways England expectations can expect to receive reduced fees and be potentially suspended until improvement plans are agreed.</p>
<b>Whole-life value</b>	Highways England investment decisions will be informed by a thorough understanding of whole life costs to deliver best whole-life value within the affordability envelope. In collaboration with our supply chain Highways England will develop procedures for considering whole-life value and best value design development.
<b>Insurance and liability</b>	Insurance requirements will be proportional to the risk of failure and Highways England will: <ul style="list-style-type: none"> <li>• Reduce the burden of unlimited liability in favour of reasonable limits of liability proportional to the risk of failure.</li> <li>• Expect to see reductions in insurance overheads to accommodate our collaborative approach to liability.</li> <li>• Explore collaboratively project based insurance policies to achieve an efficiency of insurance costs through our supply chain.</li> <li>• Seek to allocate risk where it is most appropriately held.</li> </ul>
<b>Fair payment principles</b>	Highways England payment terms will be aligned to UK Government policy and will meet all statutory requirements. We will: <ul style="list-style-type: none"> <li>• Require our tier 1 suppliers to apply fair payment principles and take measures to ensure that these are applied throughout the supply chain.</li> <li>• Monitor payment performance and continue to encourage the adoption of project bank accounts (PBAs) to ensure prompt and fair payment throughout the supply chain.</li> </ul>

## Appendix F Industry Feedback

This appendix contains feedback received from the Civil Engineering Contractors Association (CECA) and the Specialist Engineering Contractors' (SEC) Group. The purpose of the feedback is to provide a supply chain perspective on the procurement capability of Highways England and to identify areas where efficiencies may be achieved in the procurement process and contract management.

### Comments from the Civil Engineering Contractors Association (CECA)

The context for the CECA feedback is:

- All responses came from large businesses within CECA's membership;
- All businesses are supporting one or more areas of work set out in Highways England's *Procurement Plan 2015-2020*; and
- The comments regarding Highways England's practices that either support or threaten efficiency and effectiveness have been experienced by one or more of the large businesses that provided feedback.

### Procurement process

Highways England's procurement practices that are considered to support efficient and effective delivery are summarised in Table F1.

Table F1 CECA Feedback - Highways England Procurement Practices that support efficiency and effectiveness	
Area	Practice
Pipeline and Workload	<ul style="list-style-type: none"> <li>• Aims for continuity of workload</li> <li>• Pipeline visibility</li> <li>• Increases in capital expenditure and Highway's England's ambition to widen the Tier 1 supply chain.</li> </ul>
Supplier Engagement	<ul style="list-style-type: none"> <li>• Positive engagement at a variety of levels, including engagement days</li> <li>• Engagement by senior leadership and the procurement team prior to tenders coming to market to explain expected outcomes</li> <li>• Prospect of greater collaboration</li> </ul>
Information	<ul style="list-style-type: none"> <li>• Information provided about Highways England direction and priorities</li> <li>• Regular publishing of the opportunity pipeline, and keeping it up to date</li> <li>• Use the Bravo system for managing information during procurement</li> </ul>
Procurement Process	<ul style="list-style-type: none"> <li>• Use of NEC suite of contracts - especially Option C Target Cost</li> <li>• Appropriate allocation of risk and risk sharing</li> <li>• Design &amp; Build contracts that promote integrated working</li> <li>• Use of standardised document formats and document structures</li> <li>• Direct allocation of work from frameworks</li> <li>• Clarity of process and procurement rules</li> <li>• 'Lean' considerations form part of the tender process</li> </ul>

Areas of Highways England's procurement practices that are considered to threaten efficient and effective delivery are summarised in Table F2.

<b>Table F2 CECA Feedback - Highways England Procurement Practices that threaten efficiency and effectiveness</b>	
<b>Area</b>	<b>Practice</b>
Pipeline and Workload	<ul style="list-style-type: none"> <li>• Lack of consistent and long-term order book prevents successful project teams (contractor, consultant and Highways England) continuing to improve and build on the innovation/success of their previous projects.</li> <li>• Lack of continuity of workload in-contract due to approval delays, for example, the Development Consent Order (DCO) process.</li> <li>• Poor visibility of schemes (certainty of dates) – difficult to develop efficient strategies to prepare for bids.</li> <li>• Lack of stability in the forward programme – schemes appear and disappear, dates change and are sometimes inconsistent, etc.</li> <li>• Lack of early visibility of scope – difficult to assess scope from scheme title, which hampers early preparation and supply chain engagement.</li> </ul>
Packaging and Terms & Conditions	<ul style="list-style-type: none"> <li>• Concern that Asset Led Delivery Model only engages with Tiers 2 &amp; 3, cutting out Tier 1 opportunities and expertise.</li> <li>• Concern that for capital projects some contractors are being 'squeezed out' in favour of large multinational contractors and joint ventures, which will result in a reduction in the number of Tier 1s working for Highways England.</li> <li>• Construction only and some Design &amp; Build contracts are not awarded early enough to realise the best benefits from innovation. Options are either precluded by constraints from the DCO/Planning process or take too long to develop and integrate into the design and gain technical approval to make them viable in the context of the contract programme.</li> <li>• Additional Clauses to the standard NEC Form of Contract.</li> <li>• Complex contract strategies with varying pain-gain scenarios that change from project to project and within the same framework. Substantial time is lost at the start of tender periods trying to understand the contract mechanisms – contracts and incentives need to be simple.</li> <li>• Onerous risk allocation in the terms and conditions (fit for purpose, unlimited liability, liquidated damages, etc.) causing internal governance issues.</li> </ul>
Procurement Process	<ul style="list-style-type: none"> <li>• Not responding to queries in a timely manner</li> <li>• Lack of a reliable procurement timetable</li> <li>• Over commitment to deliver within unrealistic timescales and budgets</li> <li>• Use of the OJEU Open procedure</li> <li>• Onerous and repetitive submission requirements tie-up considerable resources, including framework secondary competitions.</li> <li>• Feedback on one tender contradicts feedback on another tender. Therefore, it is difficult to understand what does 'good' looks like.</li> <li>• Information at engagement days is often not new.</li> <li>• Tender assessment taking longer than planned leading to late contracts awards, problems with planning staffing levels, lack of mobilisation time; and revisions to the construction programme.</li> </ul>

## Contracts and contract management

Highways England’s contract and contract management practices that are considered to support efficient and effective delivery are summarised in Table F3.

<b>Table F3 CECA Feedback - Highways England Contract Management Practices that support efficiency and effectiveness</b>	
<b>Area</b>	<b>Practice</b>
Openness	<ul style="list-style-type: none"> <li>• Openness to innovation</li> <li>• Open book working</li> </ul>
Sharing	<ul style="list-style-type: none"> <li>• Collaboration with peers to continually improve contracts and standards</li> <li>• Sharing of innovation</li> <li>• Common data environment to share information effectively</li> </ul>
Specification & Monitoring	<ul style="list-style-type: none"> <li>• Raising the Bar and delivering better outcomes for Highways England and the industry more generally, e.g., Lean and Equality, Diversity and Inclusion (EDI)</li> <li>• Audit and compliance inspection</li> </ul>

Highways England’s contract and contract management practices that are considered to threaten efficient and effective delivery are summarised in Table F4.

<b>Table F4 CECA Feedback - Highways England Contract Management Practices that threaten efficiency and effectiveness</b>	
<b>Area</b>	<b>Practice</b>
Skills & Resources	<ul style="list-style-type: none"> <li>• Lack of resources and skills within Highways England to make timely decisions</li> <li>• Limited capability in the administration of the Contract leading to Project Manager obligations and duties under the Contract not being delivered</li> <li>• Lack of consistency between Highways England departments.</li> <li>• Lack of co-operation and reluctance to build collaborative relationships from some Highways England staff.</li> <li>• Expertise within Highways England to negotiate target cost settlements and an over reliance on cost consultants</li> </ul>
Contract Management	<ul style="list-style-type: none"> <li>• Focus on backward looking performance measures and insufficient forward looking early warning/issue management</li> <li>• Late payments on some schemes have forced the Contractor to pay money in to Project Bank Accounts to pay the supply chain on time.</li> <li>• Too many diversions away from delivery: meetings, working groups, etc.</li> </ul>
Quality of documents	<ul style="list-style-type: none"> <li>• The vast majority of escalation of cost and time comes from issues with the Works Information, e.g., incorrect topographical data, specification of incompatible products, etc.</li> <li>• Lack of interdisciplinary checks (IDC) in designs issued for construction resulting in clashes that take time and money to resolve</li> </ul>
Sub-contracting	<ul style="list-style-type: none"> <li>• A belief that sub-contract arrangements on a different basis to the main contract are problematic and cannot deliver efficiency and innovation</li> <li>• Category Management on smaller Asset Support Framework schemes did not add value due to the size and relatively short duration of the schemes</li> </ul>

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## Comments from the Specialist Engineering Contractors' (SEC) Group

The Specialist Engineering Contractors' (SEC) Group have provided feedback based on its 2015 submission to the Department for Business, Innovation and Skills Select Committee inquiry on the Government's productivity plan. The SEC Group identifies the main causes of the UK's poor productivity levels as weaknesses in the procurement and delivery of projects; the lack of barriers to entry to the industry; and business models in the industry being driven by cash flow manipulation and the need to offload risk.

In relation to weaknesses in the procurement and delivery of projects, the SEC Group are particularly concerned about the lack of involvement of specialist companies employed in the supply chain in the development of design solutions and in supporting risk management processes. The SEC Group points out that the cost of re-design and re-work due to design shortcomings and poor or late information generally tends to fall on SMEs in the supply chain. The SEC Group estimates that a sum of £2 billion annually is spent on re-work to make designs work and this figure does not include the cost of consequent delays and disruption which also consume valuable skills resources.

Specialists often work as part of a fragmented supply chain involving inefficient practices and processes which can be detrimental to their businesses. The SEC Group support procurement routes based on Integrated Project Insurance (IPI) arrangements which places the emphasis on collaborative working with the team coming under a single insurance umbrella. It should be noted however, that the maximum size of project which could be delivered under an IPI approach is currently well below the value of projects typically delivered by Highways England.

In relation to the lack of barriers to entry, the SEC Group considers that reputable specialist companies are disincentivised to invest to any great extent in the drivers of productivity because they are often out-bid by firms which offer lower prices; since such firms have no interest in investing in training or technology. The SEC Group also considers that the general lack of enforcement of existing regulations governing standards in the industry only serves to encourage entry by businesses which often do not intend to comply with the relevant standards.

In relation to business models in the industry manipulating cash flow and transferring risk, the SEC Group consider that the greatest barrier to improving productivity in construction is the widespread abuse of the payment process – lengthy payment periods, late payments and spurious reasons for non-payment. The SEC Group point out that project bank accounts are the only initiative which has had an impact on addressing the issue. The SEC Group commends Highways England for using project bank accounts on all their projects with the result that sub-sub-contractors receive their payments within 19 days of the assessment dates under the main contract.

The SEC Group also highlight the problems caused by retention systems. At any one time it estimates that at round £3 billion is outstanding by way of retention monies deducted from due payments. This is said to be security against defects but, in reality, the practice supports the cashflow of the parties deducting them (including public bodies). The cashflow uncertainty in the industry presents a major obstacle to small firms when seeking to borrow from banks. For many specialists in the industry the only way to source other credit has been to persuade suppliers to extend their trade credit but this facility has dried up. Alternatively, they are forced to seek out alternative credit facilities which may be significantly more expensive than traditional sources of finance. This impacts adversely on productivity and the cost of projects.

## Appendix G Industry Reviews Findings Summary

The main reports considered as part of the review, and summarised below, include:

- A. Constructing the Team – Sir Michael Latham, 1994
- B. Rethinking Construction – Sir John Egan, 1998
- C. Modernising Construction – the National Audit Office, 2001
- D. Rethinking the Construction Client – the Rethinking Construction Task Force, 2001
- E. Accelerating Change – Strategic Forum for Construction, 2002
- F. Improving Public Services through better Construction - the National Audit Office, 2005
- G. Never Waste a Good Crisis - Constructing Excellence, Andrew Wolstenholme, 2009
- H. Report of the Laidlaw Inquiry into lessons learned for the DfT from the InterCity West Coast Competition, December 2012
- I. Growing your business, a report on growing micro businesses – Lord Young, May 2013
- J. Procurement for Growth – Cabinet Office, May 2013
- K. Construction 2025: Industrial Strategy for Construction – Government and industry in partnership – BIS, HM Government, July 2013
- L. Delivering Major projects in Government: a briefing for the Committee of Public Accounts, January 2016
- M. ICE Project 13 Report “Transaction to Enterprise”

### A. Constructing the Team – Sir Michael Latham, 1994

Latham recognised the significant role of the client in achieving successful construction projects. The central message was that the client should be at the core of the construction process. The general route recommended to achieve client satisfaction was through team work and co-operation. One specific method was partnering. Sir Michael recommended more standardised construction contracts, better guidance on best practice and legislative changes to simplify dispute resolution.

Many of the legislative changes were made through the Housing Grants, Construction and Regeneration Act 1996. The report considered that efficiency savings of 30 per cent in construction costs over five years were achievable.

### B. Rethinking Construction – Sir John Egan, 1998

Sir Michael Latham’s message was strongly reinforced by Sir John Egan. With the Task Force membership drawn heavily from manufacturing and larger clients of the industry, the Rethinking Construction (1998) report pointed strongly towards ‘lean thinking’. It identified five drivers for change:

- committed leadership;
- focus on the customer;
- product team integration;
- quality driven agenda; and
- commitment to people.

and four process improvements:

- product development;
- partnering the supply chain;
- project implementation; and
- production of components.

It identified targets for improvement in areas such as construction time, cost and predictability and accident reduction.

### **C. Modernising Construction – the National Audit Office, 2001**

Modernising Construction (2001) was published by the National Audit Office to improve public sector procurement and management of new construction, refurbishment and repair and maintenance. In assessing what needed to be done to improve construction performance the NAO concluded that: “The entire supply chain, including clients, professional advisers, contractors, sub-contractors and suppliers of materials must be integrated to manage risk and apply value management and engineering techniques to improve buildability and drive waste out of the process.” Other recommendations suggested that Government should:

- provide a more co-ordinated direction to initiatives to promote better performance by the construction industry;
- use its influence as a member of the Movement for Innovation Board to ensure that demonstration projects are truly innovative;
- develop more sophisticated performance measures;
- disseminate good practice more widely (through the Office of Government Commerce);
- actively measure improvements in construction performance;
- train more staff to be effective construction clients; and
- make greater use of innovation to improve public sector construction.

### **D. Rethinking the Construction Client – the Rethinking Construction Task Force, 2001**

The Rethinking Construction initiative included twelve regional workshops were held throughout the United Kingdom in 2000 to showcase examples of excellent local practice, to develop common issues and to identify areas where action is urgently needed. Debates centred on improving value for money in public sector procurement, partnering, improving safety and respect for people.

The final workshop was held in Belfast on 22 November 2001. The total attendance at the roadshows and workshops was more than 2000, over 80% of which were from public sector clients. The output from the workshops was assimilated into Six Guidelines for construction clients in the public sector and published in 2001. They are:

- traditional processes of selection should be radically changed because they do not lead to best value;
- an integrated team which includes the client should be formed before design and maintained throughout delivery;
- contracts should lead to mutual benefit for all parties and be based on a target cost and whole life cost approach;
- suppliers should be selected by Best Value and not by lowest price: this can be achieved within EC and central Government procurement guidelines;

- performance measurement should be used to underpin continuous improvement within a collaborative working process; and
- culture and processes should be changed so that collaborative rather than confrontational working is achieved.

Guideline 2 is particularly relevant to major project delivery and states that:

- An integrated team should be formed before design starts and maintained throughout delivery.
- The design, planning and costing should be carried out by an integrated team consisting of the client, main contractor and key suppliers.
- If the team of client, designers, contractor and suppliers is established before (detailed) design commences this helps to solve problems of buildability and ensure that different parties understand each other's roles, responsibilities and objectives.

A collaborative relationship between clients, designers and contractors and suppliers is based on the understanding that:

- Through harnessing the full capabilities of the key suppliers, the contractor will improve their ability to offer the client superior value for money.
- The contractors and their suppliers need to make profits if they are to invest in their businesses, people, and new technologies – all of which are required if the supplier is to drive down costs and offer innovative solutions. Once margins are agreed, it is possible to focus on delivering best possible value for money.

### **E. Accelerating Change – Strategic Forum for Construction, 2002**

In September 2002 the Strategic Forum for Construction, which succeeded the Construction Industry Board in July 2001, and initially chaired by Egan, published a manifesto for the next phase of change in the industry. Accelerating Change (2002) built on and reaffirmed the principles set out in Rethinking Construction. It sought to tackle barriers to progress and identify ways to accelerate the rate of change.

Feedback from early demonstration projects showed that progress was being made by adopting a new approach to construction. All demonstration projects were required to measure their performance against Key Performance Indicators and to report annually.

A key message was the need for clients to assemble a competent integrated team. Integrated teams were seen as the key to success. Integrated teams were recommended because they deliver greater process efficiency and can help to drive out the old style adversarial culture. Therefore, a key target of Accelerating Change was to increase the number of projects (by value) undertaken by integrated teams and supply chains to 50% by the end of 2007.

### **F. Improving Public Services through better Construction - the National Audit Office, 2005**

The NAO assessed the progress that departments and their agencies had made in improving their construction delivery performance since the 2001 Modernising Construction report, in part by examining data on 142 construction projects delivered between April 2003 and December 2004, as well as the impact of relevant Office of Government Commerce initiatives. It includes NAO's view that £2.6 billion value for money savings may be possible across the

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public sector “from the application of good practice including partnering and the early development of an integrated project team”.

In this report the NAO identifies the following requirements for working collaboratively through fully integrated teams:

- The cultural change required for new ways of working to be embedded across the client organisation and the entire supply chain.
- Early contractor and specialist supplier involvement at the earliest stages of projects, including those involved in design – to maximise the opportunities for, and benefits of, value management and innovation.
- Maintaining an element of competitive tension in partnering arrangements: to maintain commercial pressure for reduced costs and improved quality.
- Certainty of payment from the client to all in supply chain – so that all in the supply chain can be confident to invest in capacity and innovation.
- Managing the risk of failure at the handover phase of the construction project – in an integrated and planned way.

#### **G. Never Waste a Good Crisis - Constructing Excellence, Andrew Wolstenholme, 2009**

In 2009 a new report from Constructing Excellence authored by Andrew Wolstenholme was released. The report looked to determine the level of industry progress since Rethinking Construction and define the improvement agenda for the next decade. The Report found that whilst the industry was moving in the right direction, it had fallen well short of Egan's targets. Both safety and profitability had taken reasonable steps forward, but progress on all other areas had been disappointing with an annual improvement of less than 3%. The 'blockers' identified were business models based on short term cycles, a fragmented industry, poor integration in the supply chain, and a lack of strategic commitment at senior management and Government levels. The review also set out a future agenda for UK construction, including some quick fixes, and identified one of the greatest challenges for the sector as being the delivery of a built environment that supports the creation of a low carbon economy.

#### **H. Report of the Laidlaw Inquiry into lessons learned for the DfT from the InterCity West Coast Competition, December 2012**

The key findings related to transparency in the procurement process particularly in relation to major risks impacting on the assessment of best value; the need for flexibility in approach; ensuring a credible and adequate timeline; the need for effective and robust governance overseen by senior officials; and ensuring that there is adequate industry expertise involved in the procurement process.

#### **I. Growing your business, a report on growing micro businesses – Lord Young, May 2013**

This report produced for the Government by Lord Young relates to micro-businesses employing fewer than 25 people and recognises that they are an area of strength for the UK economy. The report sets out ways of helping and encouraging newly created small firms to grow and become an important part of the economy.

#### **J. Procurement for Growth – Cabinet Office, May 2013**

This outlines a range of measures to promote economic growth in procurement procedures including:

- Pre-procurement market engagement;
- A leaning sourcing process to reduce procurement times and costs; and
- A procurement life-cycle to support growth.

It also sets out advice for growth through procurement and key mistakes to avoid.

#### **K. Construction 2025: Industrial Strategy for Construction – Government and industry in partnership – BIS, HM Government, July 2013**

Sets out a vision and a plan for long-term strategic action by government and industry to continue to work together to promote the success of the UK construction sector. It focuses on key growth markets in:

- smart technologies
- green construction
- overseas trade

The construction strategy is part of the government's industrial strategy.

#### **L. Delivering Major projects in Government: a briefing for the Committee of Public Accounts, January 2016**

Key challenges highlighted for Government departments and the Infrastructure and Projects Authority (formerly the Major Projects Authority) during the current Parliament are to:

- prevent departments making firm commitments in cost and timescales for delivery before their plans have been properly tested;
- develop an effective mechanism whereby all major projects are prioritised according to strategic importance and capability is deployed to priority areas; and
- put in place the systems and data which allow proper performance measurement.

#### **M. ICE Project 13 Report “From Transactions to Enterprises”**

The report ‘From Transactions to Enterprises’ was commissioned by the Infrastructure Client Group (ICG) with support from the Institution of Civil Engineers (ICE). The ICG recognised the need for a new approach to delivering the UK's infrastructure that will encourage innovation, produce better outcomes and reduce waste in the delivery process.

The report identifies five features that taken together form the basis of the new approach to delivering infrastructure: Governance; Organisation; Integration; Capable Owner; and Digital Transformation. The report describes these key features and through case studies demonstrates how their deployment has delivered substantial benefits for infrastructure owners and their customers.

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## Appendix H Academic Note 1: Procurement Strategy

### Academic Note 1: Procurement Strategy to Articulate Vision and Objectives

#### Background and Rationale

Many classic purchase and supply maturity models (e.g. Reck and Long 1988, Jones 1999, van Weele 2014) argue that an effective procurement department become less transactional and more strategic as they develop. Such departments articulate a long-term development strategy and vision, link coherently with overall organizational goals, and put in place strategic approaches for co-ordinating and communicating with the supply chain. One study estimates that typical savings from this transition include resource cost reductions of 25%, and the potential for <30% saving across the total cost of ownership and through supply chain savings (Jones 1999).

Many core procurement texts devote a chapter to strategy (e.g. Lysons and Farrington 2012; Baily et al. 2008). Key elements include, firstly, the importance of articulating vision, mission and objectives, and secondly, the cascading of these elements through a clear hierarchy from high level organisation goals through to more tactical plans, for example by the use of a balanced scorecard. In doing so, the various levels of strategy and linkages between these levels will need to be clearly expressed. Strategies may be emergent, so a process should be put in place to monitor and control their development, as well as to gather feedback from stakeholders to inform this process (Poister and Streib 1999). CIPS also acknowledge that strategies, objectives and should be in aligned with the time-scales and objectives of the corporate strategy and specify how procurement and supply management can contribute to the achievement of overall goals (CIPS 2013).

Finally, as noted by CIPS (2013), procurement strategy documents are a key interface with the supply market. As such, and particularly the case for public sector clients, they play a key role in shaping and communicating to both internal and external stakeholders the type of organization that a Government unit is trying to become (Poister and Streib 1999).

#### Evidence for Performance Gains/Efficiencies

- A survey of 739 senior purchasing and procurement members of the National Association of Purchasing Management in the US concluded that strategic purchasing had a statistically positive impact on both the strength of supplier relationships and firm performance. Strategic purchasing, in this instance, being defined as evidence of a formalised long-term strategic planning processes used by purchasing managers. The study concludes that strategic purchasing accounts for 20% of variance in firm performance. Hence, as strategic purchasing increases a firm can expect to increase its return on investments, profits as a percent of sales, net income before taxes, and the present value of the firm (Carr and Pearson 1999).
- A survey of 232 purchasing managers at the Institute for Supply Management indicates that the greater the focus on strategic long-term goals in a procurement department (defined more specifically as strategic focus, strategy involvement, and visibility), the greater the level of performance across the supply chain. Performance is statistically significantly in relation to supplier performance indicators on quality, cost, flexibility, delivery and responsiveness (Paulraj et al 2006).

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## Link to Best Practice Principles

- Issues identified in this Academic Note relate to the need for clarity of strategy and objectives and support the following best practice principles set out in Section 5:
  - *strong procurement leadership and governance;*
  - *focus on whole-life objectives;*
  - *early appointment of an integrated delivery team;*
  - *collaborative relationships throughout contract delivery;*
  - *contracts awarded based on value;*
  - *contract performance management;*
  - *fair allocation of risks and continual risk management; and*
  - *fair rewards and prompt payment.*

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## Appendix I Academic Note 2: Collaboration

### Academic Note 2: Collaboration, Integration and Long-term Relationships

#### Background and Rationale

Collaborative relationships have been a prominent theme in the purchase and supply literature since the 1980s. Many studies and conceptual models support the argument for moving away from adversarial, short term transactions with a large supply base towards fewer, closer, well co-ordinated, long-term relationships (e.g. Spekman 1988). Such relationships are characterised by a longitudinal commitment, jointly developed aims and vision, mutual dependency, as well as joint problem solving, process improvement, conflict minimisation structures (Dwyer et al. 1987; Spekman 1988). CIPS suggests that it conveys 'an attitude of openness, effective communication, trust, honesty, transparency, sharing, mutual benefit, close collaboration and co-operation' (CIPS 2013). Large scale studies in the automotive industry report impressive performance gains, such as improvements in productivity of almost 50% (Liker and Wu 2006).

The difficulties of achieving the above within construction related sectors has been noted (Bresnen and Marshall 2000). Work is organised as projects, often requiring unique engineering work, specialist expertise and/or adapted designs to suit site conditions, making it problematic to maintain consistent teams. However, there is evidence that it is both possible and has positive performance outcomes (Autry and Golicic 2010; Gosling et al. 2015). One study that analyses performance data over a 24-year period finds that strategic relationships with the collaborative characteristics outlined in this academic note led to statistically significant improvements in the consistency of performance, when compared to more short term, less collaborative relationships (Gosling et al. 2015).

Finally, it is worth noting that at the broader level of the supply chain (as oppose to single buyer-supplier relationships), there is compelling evidence that integration at the different levels and interfaces of the supply chain leads to performance improvements (Flynn et al. 2010; Frohlich and Westbrook 2001). The body of knowledge relating to integration also stresses the importance of internal integration in the pursuit of external integration (Flynn et al. 2010).

#### Evidence for Performance Gains/Efficiencies

- A study in the highway construction industry between 1991-2000 examined a large dataset including 5775 major highways projects and 1257 organisations. The authors investigated relationship strength by identifying relationship duration, interaction frequency, and interaction intensity between employer and contractor, and testing the relationship with cost and time performance outcomes. First, they find that relationship strength is significantly related to time and cost performance outcomes. Second, they find that relationships take a great deal of time to build: relationships are cyclical, and spiral over long time periods (Autry and Golicic 2010).
- Analysis of a different large dataset related to projects constructed between 1990 and 2014 investigated performance data for 98 suppliers. Relationships were classified as either strategic partners, preferred or approved suppliers, where strategic partners had high levels of collaborative behaviours. Strategic partners invested significant resources into the relationship, including training, investment in capability building and

technology, joint process improvement and innovation projects, commitment to open information sharing and formalised conflict minimisation structures. Performance outcomes such as time, cost, quality, design, management and close out were tested for the different relationship types. Strategic partners outperformed all other categories in terms of average performance, as well as (and in particular), the consistency of performance. Strategic partners are much less likely to perform poorly (Gosling et al 2015).

- Frohlich and Westbrook (2001) surveyed 322 manufacturing companies probing ‘arcs of integration’. They investigate levels and breadth of integration between companies, their suppliers and their customers, and the impact on market (e.g. profitability and market share), productivity (e.g. cost and lead time) and non-productivity (service and quality) performance indicators. They find that outward facing firms with the greatest degree, or broadest arc, of supply chain integration were strongly associated with higher levels of performance.

### Link to Best Practice Principles

Issues identified in this Academic Note relate to the benefits of collaborative, long-term relationships and support the following best practice principles set out in Section 5:

- *longer-term contractual arrangements;*
- *early appointment of an integrated delivery team;*
- *collaborative relationships throughout contract delivery;*
- *contract awards based on value;*
- *sharing and learning;*
- *fair allocation of risk and continual risk management; and*
- *fair rewards and prompt payment.*

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## Appendix J Academic Note 3: Early Contractor Involvement

### Academic Note 3: Early Supplier / Contactor Involvement

#### Background and Rationale

Across industries, there is evidence that supplier participation in product development and planning can have a range of positive benefits, including stimulation of innovation (Primo and Amundson 2002; van Weele 2014; Wasti and Liker 1997). A review synthesising all available studies from the last 1980s until late 2000s concluded that effective early engagement of suppliers leads to shorter time to market, improved quality and reduced costs, but that many factors determined the extent of these positive outcomes, including risk and reward sharing, meaningful representation of the supplier in appropriate teams and processes, and a commitment to avoid opportunistic abuse of power (Johnsen 2009).

The construction industry has adopted the term Early Contractor Involvement (ECI) to refer to such initiatives. Contractors and subcontractors may make early contributions to designs, for example by reviewing drawings, specifications, interfaces and proposals, but also to project planning (e.g. through contributions to schedules, budgets, estimates and work activity breakdowns) (Song et al. 2009). Gil et al. (2001) conclude that speciality contractor knowledge can make useful contributions in many ways: increasing the ability for creative solutions, improving knowledge of space considerations for construction processes, better visibility of fabrication and construction capabilities, and improved knowledge of supply lead times and reliability.

Mosey (2009) notes that in practice ECI is often limited due to its lack of fit with existing procurement and contractual models, but argues that influential clients must find innovative ways of encouraging, implementing and capturing the benefits of ECI for the good of the wider construction marketplace. Case study evidence from a study of 4 Dutch road infrastructure projects indicates that ECI adds value in terms of time gains, improved project control and more innovative solutions, but that ECI is needed as early as possible in the planning process where there is significant scope at that point for suppliers to provide added value in terms of innovation, which diminishes further along the project phases (Lenferink et al. 2012). On a final note, as the use of Building Information Modelling is more widely adopted, there will be a need to consider in much greater detail the processes, interactions and knowledge sharing mechanisms between design teams and tier 2 and 3 suppliers who will often have access to the detailed data needed for BIM models (Wang et al. 2017).

#### Evidence for Performance Gains/Efficiencies

- Song et al. (2009) studied the impact of supplier involvement into design, construction planning and budgeting, as well as project management and found that over the lifecycle for a project, ECI can reduce the total project duration by 12% and the person hours by 5.5% due to reductions in drawing revisions, material shortages, NCRs and RFIs.
- Data collected from 38 New Product Development (NPD) Projects in the electronic industry finds a statistically significant relationship between early involvement of suppliers and quality indicators in the NPD projects, such as reliability, conformance, durability and serviceability. Early Involvement was defined by establishing the level of supplier inputs, activity, communication and co-operation with respect to the design.

They also conclude that managers perceive that early involvement can reduce the risks associated with critical and/or complex supplied elements (Primo and Amundson 2002).

### Link to Best Practice Principles

Issues identified in this Academic Note relate to the benefits of early contractor involvement and support the following best practice principles set out in Section 5:

- *continual supply chain engagement;*
- *early appointment of an integrated delivery;*
- *collaborative relationships throughout contract delivery;*
- *contract awards based on value;*
- *contract performance management;*
- *sharing and learning;*
- *fair allocation of risk and continual risk management; and*
- *minimising the direct cost of procurement.*

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## Appendix K Academic Note 4: Contracts & Incentivisation

### Academic Note 4: Contracts and Incentivisation

#### Background and Rationale

Classical theories of governance exchange have sought to explain how agreements between buyer-suppliers for goods and services can be designed and managed to reduce 'exchange hazards', which typically manifest in the form of an opportunistic, self-serving behaviours to maximise one parties gain to the detriment of everyone else (Jap and Anderson 2003; Poppo and Zenger 2002; Williamson 1985). Firstly, this may be addressed by the explicit articulation of contract between parties. Secondly, such hazards can be managed by the social processes, relations, norms and trust between the parties (Cannon et al. 2000; Macauley 1963). Industries characterised by a high degree of innovation and unique engineering work will likely require the 'braiding' of contractual and relational elements (Gilson et al. 2010).

Across the construction sector, perhaps recognising the need for the aforementioned integration of relational and contractual elements, there have been efforts to promote project partnering, integrated project delivery teams and alliancing, combined with more relational contracting forms, such as the New Engineering Contract (NEC) suite of contracts emphasising co-operation, trust and mutual dependence (Gil 2009; Lahdenpera 2012). Uses and variations of the above, however, need to be linked appropriately to fundamental risk and uncertainty structures within the engineering work so that the right behaviours and conditions for success can be established (Gosling et al. 2017). Hence, there is a need to articulate clearly the processes, principles and systems that will lead to appropriate decisions for relationship and contractual elements for projects or programmes (Gosling 2015).

A final important point is the extent to which contracts and relationships can be more effectively integrated across long-term programmes and frameworks (linking with academic note 2). CIPS (2013) warn that incentivisation schemes across multiple projects and contracts (such as framework agreements) can create misaligned behaviours and outcomes if they are uncoordinated and/or do not take into account the implications to all stakeholders. CIPS (2013) advises dialogue between procurement and the supply chain to ensure that incentivization schemes are balanced, and that they are simple and clearly linked to high level goals. Despite this, as shown below, there is evidence that partnering with relational contracting can work well over both projects and longer-term programmes.

#### Evidence for Performance Gains/Efficiencies

- A survey of participants from 61 project alliances across Australasia between 2008-2013 finds that on average alliances reported performance of 4% under budget with the key areas of efficiency identified as savings achieved through accelerated processes and innovative practices, methodology improvements, risks not being realised, improved quality assurance, minimal business interruptions and significant reduction in scope (Walker et al. 2015).
- A broader study exploring relational and contractual based element of 184 strategic alliances yields a statistically significant findings that relational-based governance, based on trust and commitment, as opposed to contractual-based governance is more effective and influential in strengthening interfirm partnerships, stabilizing the alliance, and facilitating knowledge transfer between alliance partners. The analysis concludes

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that relational elements are even more crucial when there is technological innovation and/or market turbulence (Lee and Cavusgil 2006).

### Link to Best Practice Principles

Issues identified in this Academic Note relate to contracts and incentivisation and support the following best practice principles set out in Section 5:

- *focus on whole-life objectives;*
- *continual supply chain engagement;*
- *long-term contractual arrangements;*
- *simple contractual interfaces;*
- *collaborative relationships throughout contract delivery;*
- *contract awards based on value;*
- *contract performance management; and*
- *fair allocation of risk and continual risk management.*

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## Appendix L Academic Note 5: Supply Chain Networks & Value

### Academic Note 5: Whole Supply Chain Networks and Value

#### Background and Rationale

Many research studies have concluded that there is a need to widen the scope of focus beyond individual buyer-supplier relationships to supply chains, and even to whole networks that encompass less direct links in the interlinked chain of companies (e.g. Christopher 2016; Harland 1996; Lambert and Cooper 2000). By expanding thinking to the sphere of extended networks, it is possible to develop responsive supply chains that maximise the potential for providing value to customers at less cost (Christopher 2016). However, this extended view brings with it several challenges, which are explored below.

First, there is the issue of the extent to which an organisational can reasonably influence or actively manage across a whole network viz-a-viz. their own resources and constraints. Hence, Lambert and Cooper (2000) have argued that organisations need a clear plan and position associated with the relational links in the network are actively managed, those which will be monitored, and those which will not be managed and/or those who are not members of the network. The performance of the latter, they warn, may have an indirect impact on the performance of the direct network. This will require analysis and reflection on the level of the interrelationships between different areas of the supply chain, the overall composition and integration structures, and the processes that link suppliers together (Choi and Krause 2006; Lambert and Cooper 2000).

Second, there is the challenge of effectively leading, co-ordinating, orchestrating, establishing strategic direction, as well as managing and monitoring the broader network (Christopher 2016). Mello et al. (2017) suggest that a systems approach is needed, where collaborative approaches are developed to the coordination of requirements, resources and capability, the engineering-production interface, project planning, and information flows. Further developing the systems thinking approach, a number of guiding supply chain design principles can be articulated. These include supply chain designs that encourage time compression, synchronization, information transparency, design for manufacture, reduction of complexity, and effective control systems (feedback and monitoring), underpinned by learning and integration (Gosling et al 2015).

Finally, there is the problem of defining, identifying and creating value from such networks. Value is notoriously difficult to define, but is commonly seen in terms of perceptions of worth by customers, consumers or users (Al-Mudimigh et al 2004). Womack and Jones (1996) proposed that the identification of value, defined as 'what the customer is willing to pay for', and subsequent development of a value stream that delivers it free of waste as a central tenet of lean thinking. In the context of construction, the concept of value and worth also needs to be considered over the life cycle of an asset. Therefore, rather than focusing solely on cost or price, supply chains delivering best value excel along an array of integrated priorities balanced over the long term (Gosling et al. 2013; Ketchen and Hult 2007).

#### Link to Best Practice Principles

Issues identified in this Academic Note relate to the benefits of integrated supply chains and support the following best practice principles set out in Section 5:

- *strong procurement leadership and governance;*
- *focus on whole-life objectives;*
- *continual supply chain engagement;*
- *longer-term contractual arrangements;*
- *early appointment of integrated delivery teams;*
- *collaborative relationships throughout contract delivery;*
- *contract awards based on value;*
- *contract performance management;*
- *sharing and learning;*
- *fair allocation of risk and continual risk management;*
- *fair rewards and prompt payment; and*
- *minimising the direct cost of procurement.*

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## Appendix M Academic Note 6: Procurement Savings & Efficiencies

### Academic Note 6: Procurement Savings and Efficiencies

#### Background and Rationale

Procurement has an important role in enabling project success. There is convincing evidence that procurement procedures at different stages of the procurement lifecycle have a well-established link with impact on the following project performance criteria: cost, time, quality, environment, work environment and innovation (Erikson and Westerberg 2011). The same review concludes that a collaborative climate plays a big part in maximising the positive relationship between cooperative procurement procedures and project performance

Through the academic notes developed during this report, evidence is given for the improvements that may result from initiatives in a range of areas, such as strategy, long term collaborations and integration, as well as early contractor involvement (See appendices 1-5). The scale of potential efficiencies resulting from the implementation of good procurement practices is a complex area of study, since there are many potential assumptions and variables, and it is likely that different areas of good procurement practice will develop over time and in interlinked ways. A further challenge is that estimating potential improvements depends on the current capability and maturity level. However, a number of studies do give indicative levels for cost savings that are possible, and are summarised below.

#### Indicators for efficiency savings

- One study estimates that typical savings from advancing best practice across purchasing include a scale beginning with clerical/small savings, moving towards cost reduction of 5-10% as the department develops, 10-20% as it matures and then 25% with and the potential for 30% saving across the total cost of ownership and through supply chain savings at an advanced level (Jones 1999).
- Schiele (2007) explores the relationship between purchasing maturity and financial performance, and conducted extensive procurement audits across 14 companies. Purchasing maturity was established via profiles based on dimensions of best practice in the areas of procurement planning, organisational structure of purchasing, process organisation, human resources and leadership, as well as performance measurement and control. Performance was then measured by their success in a purchasing cost-reduction programme. The study finds that by applying different levers connected to maturity level efficiency savings of 0.3% to 18.3%, averaging 7.3%, should be possible. A positive relationship between maturity and procurement savings is found (Schiele 2007)
- A survey carried by Protiviti (promoted by CIPS) finds that 35% of procurement leaders rate cost savings through procurement as very effective (>10% cost savings annually), 54% as somewhat effective (5-10% cost savings annually), 8% as somewhat ineffective (1-5% cost savings annually), 3% as not effective (no annual cost reductions) (Protiviti, 2017).

## Link to Best Practice Principles

Issues identified in this Academic Note relate to project performance outcomes and the scope for efficiencies and are therefore, associated with all of the best practice principles set out in Section 5.

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## Appendix N Biographies of Review Team Members

### Steve Rowsell, BSc, CEng, FICE, FCIHT, MCIPS

Steve Rowsell is a Director of Rowsell Wright Ltd and is a chartered Civil Engineer with over 40 years' experience in major transport infrastructure procurement and delivery. From 2001 he served as the Highways Agency Procurement Director for seven years before co-founding the specialist procurement consultancy Rowsell Wright Ltd in 2007. As Highways Agency Procurement Director, Steve introduced a wide range of new procurement initiatives including partnering contracts, early contractor involvement contracts and new supplier assessment procedures. Prior to his procurement role Steve had responsibility at the Highways Agency for major projects under construction across England.

Since leaving the Highways Agency, Steve's roles have included Crossrail Head of Procurement, where he was responsible for the development of the procurement strategy for the £15bn project, and supporting HS2 Ltd on the development, assurance and implementation of their procurement strategy and procedures for the new high-speed railway.

Steve was President of the Chartered Institution of Highways and Transportation in 2016-17. Steve is former Chairman of the NEC3 Contract Users' Group, is a member of the NEC Contracts Board, and a member of the Institution of Civil Engineers' Procurement Panel.

### Gary Wright, BEng, CEng, MICE, FCIHT

Gary Wright is a Director of Rowsell Wright Ltd and a Procurement Advisor and Chartered Engineer with over 20 years of experience in the delivery of complex rail, road and nuclear infrastructure programmes. Gary has developed and implemented a range of innovative procurement strategies and processes to support major infrastructure programmes in the UK and Ireland, which have included Crossrail, Crossrail 2, High Speed 2, the Deep Tube Upgrade Programme, the A5 Western Transport Corridor and the Dunkettle Interchange.

Gary co-founded specialist procurement consultancy Rowsell Wright Ltd in 2007. As a Director of Rowsell Wright he has supported the development and implementation of procurement strategies and plans, and advised at Board level, on a range of major infrastructure projects. Gary has completed over 60 procurement and commercial support and advice commissions in the rail, highways and nuclear sectors.

Gary is currently chair of the Institution of Civil Engineers' Procurement Panel, which informs and influences ICE and UK government policy. Gary led the team of assessors that have undertaken the review of the strategic alignment of Highways England's key suppliers with Highways England's objectives and policies as part of the Highways England's StART assessment programme.

Andy was one of the team of assessors that have undertaken the review of the strategic alignment of Highways England's key suppliers with Highways England's objectives and policies as part of the Highways England's StART assessment programme.

### David Orr CBE, FEng, HonDSc, FICE

David Orr is a chartered civil engineer who has spent much of his career as a construction client and procurement specialist. He served as a Permanent Secretary of the Northern

Ireland Department for Regional Development where he was responsible as Accounting Officer for all public roads, water / waste water, and public transport in Northern Ireland. He now specialises in advising clients on the commissioning and procurement of major projects.

David was President of the Institution of Civil Engineers in 2007-08 and in 2009 was awarded the ICE Gold Medal for services to infrastructure. He is also a Fellow of the Royal Academy of Engineering and the Irish Academy of Engineering. He was appointed CBE in the New Year Honours 2010 and awarded the Honorary Degree of Doctor of Science by Ulster University in 2017.

From 2008 until 2014, David chaired the independent Procurement Expert Panel for London's £15bn Crossrail Project. Since November 2013 he has been an External Board Member of the Houses of Parliament overseeing the Palace of Westminster Restoration and Renewal Programme. In August 2015 he was appointed Chair of HS2's Independent Assurance Panel for Procurement.

### **Jonathan Gosling, BSc, MSc, PhD, FHEA**

Jon Gosling is a Reader in Supply Chain Management at Cardiff University, where he is also deputy head of research, innovation and engagement for the Logistics and Operations Management Section at Cardiff Business School. Prior to becoming an academic, he worked in the automotive industry as a supply chain analyst for Unipart-Jaguar.

Jon's research focuses on procurement and supply chain management in engineer-to-order sectors, such as construction, shipbuilding, capital goods and machine tools. He teaches procurement and supply chain management on a range of programmes. Working closely with senior industry figures, he has undertaken project work leading to findings published widely in supply chain management, production, construction management and construction engineering journals. He has received numerous awards associated with his papers and book contributions.

From 2013-2017, Jon has led a range of funded research projects, commissioned by construction clients and contractors, seeking to improve and challenge current supply chain practices in major projects. These projects include 'the principles of appropriate contracting', 'accelerating BIM across the supply chain' and 'capturing project memories and lessons learnt', which have informed this review.

### **Andy Roach-Bowler, BSc (Hons), LLB (Hons), FRICS, MCIHT**

Andy Roach-Bowler is a Director of Rowsell Wright Ltd and is highly experienced in highways related public sector procurement having provided services to Highways England through the Rowsell Wright commissions (2014 – current) and previously through Turner Townsend.

Andy has extensive experience in a range of senior procurement roles at Crossrail, High Speed 2 and London Underground including leading the procurement of the programme of the Crossrail major tunnels and station contracts valued at over £5 billion.