

**All Party Group for Excellence in the Built Environment**



# **A Better Deal For Public Building**

Report from the Commission of Inquiry into achieving best value in the procurement of construction work

September 2012

## Acknowledgement

We would like to thank the witnesses who gave oral evidence and the organisations/ institutions that provided written submissions to the Inquiry, as well as those who sat on the panel.

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# Contents

<b>Chairman's Foreword</b>	Page 3
<b>Executive Summary</b>	Page 5
<b>Key Recommendations</b>	Page 6
Section 1: The Commission of Inquiry	Page 8
Section 2: Context: the importance of public procurement of construction work	Page 9
Section 3: Educating the client: challenges, recommendations and examples of good practice	Page 15
Section 4: Appendix	Page 33

# Chairman's Foreword

## **Sir Tony Baldry MP, Chair of the Commission and the All Party Parliamentary Group for Excellence in the Built Environment.**



Improving the procurement of public construction projects has been the Holy Grail for as long as most can remember. Lack of trust and a lack of expertise amongst public sector clients, together with a long prevailing culture of taking the lowest price as the prime evidence of best value, are some of the reasons given over the years for public projects being delivered either late or over budget, or both; not entirely fit for purpose, or procured for an inflated price.

We've called our report *A better deal for public building*. But it might well have been: "Is it possible to get a better deal for public building?" For we are not the first to tackle this seemingly Gordian Knot. Over the years, there have been numerous studies, reports, recommendations and guidance notes, all of which stress the absolute need for collaborative working and integrated teams. The Government Construction Strategy, launched in May 2011, is merely the latest to follow suit.

It's unfair to say there has been no improvement in the past decade-plus, particularly when it comes to overcoming delays or project over spends, where there have been signs of amelioration. And, yes, there have been beacons of best practice-not least in the construction of the venues for the London Olympic Games. In fact, we draw heavily on many of the highly successful procurement practices from London 2012 in our 13-point plan for turning the public sector into a better client.

Nonetheless, the uptake of various studies and recommendations over the years has been limited and we're yet to consistently deliver outstanding projects that fulfil their purpose, at the right price. Indeed, as the squeeze has tightened on public spending, it is more imperative than ever that public sector clients and their suppliers work together to lower the cost of building procurement to the public purse. Lest it be overlooked, the Government is still the construction industry's largest single client spending £46bn a year.

The Construction Strategy is targeting a 20 percent reduction in project and construction costs over the lifespan of this Parliament. To achieve that, it has called for a profound change in the relationship between public authorities and the construction industry.

We are also going through a fundamental change in emphasis too, where the focus and language is all about performance outcomes - delivering schools that provide the best learning environments and hospitals that help make people well.

It is for this reason, we have decided that the All Party Parliamentary Group's inaugural inquiry should examine how we ensure the greatest value for money in the public procurement of construction, while at the same time achieving the excellence in the built environment, that we all desire.

We have a number of reasons to be optimistic that, this time around, the current efforts to improve public procurement will be more successful. There is a greater emphasis being placed on trying to change the aspects of client behaviour and practices that the industry has had most difficulty with. The industry is better placed to rise to the challenge of working in a more collaborative way and in integrated teams not least because of years doing so in PFI projects. Making a senior figure responsible for driving it through, in the shape of the Chief Construction Adviser, is also a huge fillip.

## Chairman's Foreword - *Continued*

We applaud this effort and focus, and we particularly welcome the importance being attached to Building Information Modelling, as a means of driving through much needed efficiencies. We have great hopes too for the new British Standard on procurement to help shine a guiding light to aid those responsible for procurement in the public sector draw up strategies.

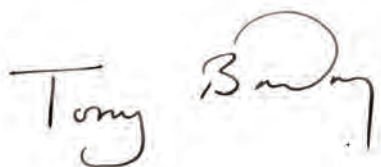
However, we are also aware that there is a cultural change required by public sector clients, if they are to develop a lasting and sustainable improvement. This report highlights challenges that potentially undermine this focus and provides examples and methods that could help overcome them.

The scope of our inquiry has not been to examine and interrogate the Government's own road map per se, but to look more widely at examples of best practice that have brought dividends. Many of the hallmarks for achieving best value in public construction procurement we have taken as read - good quality design, integrated teams, and a client brief predicated on performance and outcome. These also form the backbone of the Government's Construction Strategy.

During our inquiry, we have received evidence from a wide range of contributors from across the construction spectrum, suggesting what processes can help reduce costs, increase competition, make public procurement simpler and more efficient and allow firms of all sizes to play their part. We heard repeated evidence that many of the necessary tools are in place and that many of the procurement issues raised by the inquiry are not materially different to those that have created challenges in the past.

It is vital that we begin to build on the success of existing initiatives, such as client advisors, the National Improvement and Efficiency Partnership, the CIC Scope of Services, and identify how these can be joined up more effectively in pursuit of improved client and industry performance.

We hope our observations and recommendations will provide support for the Government Construction Strategy, underline the magnitude of the task, and offer suggestions for finally putting the know-how we have into action across the public estate, in order to begin to bring about the procurement revolution that we still so desperately need.

A handwritten signature in black ink that reads "Tony Baldry". The signature is written in a cursive, slightly slanted style.

Sir Tony Baldry MP

# Executive Summary

The construction sector is a major part of the UK economy. Its annual turnover of £122bn in 2011 represents between 7 and 8 percent of the nation's GDP and it employs 2.2 million people, according to Office of National Statistics figures for 2011.

The construction sector is diverse and fragmented in nature. There are three major components of the industry; contracting supply chains, the vast majority of whom are small and medium sized enterprises (there are over 350,000 SMEs in construction); professional design teams; and material product suppliers. There is no clearly understood definition of the construction industry.

The official ONS data, for example, only includes output from contractors (which one can reasonably assume includes the purchase of most construction products) but it does not include the separate fees earned by architects, architectural technologists, building engineers, civil engineers, building services engineers, structural engineers, project managers, facilities managers, building surveyors, quantity surveyors, landscape architects, independent clerks of works and construction inspectors, approved inspectors and a long tail of other professional consultants. The value of these fees, traded by an estimated 27,950 firms, employing an additional 270,000 people, was £13.9 billion on projects in the UK on the last occasion that this separate survey was undertaken, in 2005/6. None of this added value is included in data for the construction industry.

The public sector, at a national and local level, is far and away construction's largest client, accounting for nearly 40 percent of spending. It invests nearly £46bn per year in infrastructure and building projects, according to the Office of National Statistics.

By improving procurement, particularly through sharpening the expertise of the client, there is scope to make savings to the public purse. We wholly endorse the Government striving to achieve a 20 percent saving in costs over the course of this Parliament, but it is essential that this is not achieved at the expense of quality and good design.

The ingredients of good procurement are largely known, but previous attempts to roll them out in the public sector have had limited success. We need to build on tried and tested processes to deliver successful outcomes on a consistent basis.

The austere times in which we live will certainly provide a driver for change for both client and its construction industry suppliers. If costs can be reduced, it should ensure more building and infrastructure projects go ahead.

The industry is better placed to rise to the challenge of working in a more collaborative way and within integrated teams. Also, in the Chief Construction Adviser, there is a senior central figure driving through better practice. We particularly welcome the importance being attached to Building Information Modelling, as a means of achieving much needed efficiencies.

One of the key barriers to improvement is that public sector clients are often poorly equipped to commission construction work. We welcome the Government's proposal to set up a new leadership academy for major project leaders, but the task of changing performance in the public sector cannot be underestimated. Nothing short of a cultural shift is needed by public sector clients, if they are to develop a lasting and sustainable behavioural improvement, and Government will need to commit the necessary support and resources to make this happen.

# Key Recommendations

## A thirteen-point plan for a better deal in public building

### *Becoming better equipped*

**Recommendation 1.** More time and resource must be given to the development of a project brief (with clients asking themselves, why do we need this building or infrastructure, what do we need and what is the best way of ensuring we get what we need). (Section 3.1 page 15)

Clients must also ensure they allocate sufficient resource to the overall project management by themselves or a management partner, to reduce risk and create a successful outcome. (Section 3.1 page 15)

**Recommendation 2.** BSI has introduced a new British Standard BS 8534 - Construction Procurement Policies, Strategies and Procedures, which provides excellent guidance which public bodies would do well to follow. (Good practice 2 page 17)

**Recommendation 3.** The Government, through the Chief Construction Adviser, should set up a Best Practice Procurement Advisory Group to assist inexperienced public sector clients (including Government departments, agencies, non-departmental public bodies and local government) to define their objectives clearly and adopt appropriate procurement arrangements for the size and type of project.

Infrequent clients would also benefit from appointing a professional adviser to develop the brief as we move to outcome based specification. (Section 3.1 page 15)

### *Selecting the best team and setting performance targets*

**Recommendation 4.** Projects must be procured on the basis of integrated teams (designers, contractors and, if appropriate, asset managers) with the ability of teams to work together as one of the selection criteria within a balanced scorecard (see Recommendation 6 below). (Section 3.2.1 page 18)

**Recommendation 5.** At the same time, a dialogue between clients and the design team in contractor-led procurement is to be encouraged while designs are being developed. Clients must also ensure that they and their project management team (if they have one) meet the nominated individuals of their lead consultants and contractors and have the ability to accept/reject on the basis of culture/fit. (Section 3.2.1 page 18)

**Recommendation 6.** Selection of an integrated team must not be made on the basis of lowest price but, like the construction of the venues for London 2012, on the basis of a balanced scorecard; that is, marking the bid against specified criteria, of which sustainability should be one. (Section 3.2.2 page 20)

**Recommendation 7.** Large-scale public projects (e.g. more than £100m in value) should have mandatory construction commitments, based on the 2012 Construction Commitments, on which they would be required to report over the duration of the project. At the same time, Government should encourage voluntary adoption of such construction commitments across a wide range of public and private sector projects with a programme of promotional activity, including awards, to highlight and celebrate success. Key indicators could include: client leadership, sustainability, team integration, design quality, health and safety, and commitment to people, which includes a commitment to employing local people and excellent facilities. (Section 3.2.2 page 20)

# Key Recommendations - *Continued*

**Recommendation 8.** Buildings and infrastructure should be procured on the basis of both capital and operating costs. (Section 3.2.2 page 20)

## *Reducing bureaucracy and increasing competition*

**Recommendation 9.** Public sector clients need better guidance to help prevent them from over-interpreting EU procurement rules, which can create barriers to entry and create a tick-box mentality. Clients should also drive out waste in the pre-qualification stage by avoiding disproportionate demands on the bidders. For example, unlimited liability clauses should be expunged. (Section 3.3.1 page 15)

**Recommendation 10.** Prequalification questionnaires should be sensible in their scope and not exclude small and medium-sized enterprises from appropriate work (Section 3.3.2 page 20).

## *Increasing efficiency*

**Recommendation 11.** We wholly endorse that the use of Building Information Modelling should be regarded as best practice and mandatory from 2016 across all public projects, and would urge the Government and private sector to put the necessary resources into enabling this capability to be achieved. (Section 3.4 page 29)

## *Measuring performance*

**Recommendation 12.** Post occupancy evaluation should be mandatory on all public sector projects above a minimum value threshold (e.g. £5m), with a focus on assessing performance against design expectations. This will help determine good and bad design practice and help inform design decisions going forward. (Section 3.5.1 page 30)

Poor commissioning often leads to performance issues and one way of improving this is to have a phased handover of the building, using a protocol called Soft Landings. (Section 3.5.1 page 30)

**Recommendation 13.** The Government's Chief Construction Adviser should be required to prepare an annual report on the performance of public sector clients (including Government departments, agencies, non-departmental public body and local authorities) in construction procurement. This should highlight positive achievements in successful projects, as well as failure to deliver value. The report should be a public document, and should provide the basis for follow-up examinations of public sector clients, which have consistently failed to deliver value for money or failed to improve their performance when benchmarked against other comparable organisations. (Section 3.5.2 page 32)



# Section 1. The Commission of Inquiry

## 1.1 About the Inquiry

In May 2011 the Government launched a new Construction Strategy, aimed at reducing project and construction costs by up to 20 per cent over the lifespan of this Parliament. To achieve that, it has called for a profound change in the relationship between public authorities and the construction industry.

It is for this reason that we decided that the first Commission of Inquiry for the All Party Parliamentary Group for Excellence in the Built Environment should examine this issue. How do we ensure the greatest value for money in the public procurement of construction, while at the same time achieving the kind of excellence in the built environment that we all desire, and what are the successes we can draw upon?

The Commission of Inquiry was initially announced in the Summer 2011, when we put out a call for written evidence. The Commission began its work in early 2012, holding five open sessions where oral evidence was presented between January and March 2012.

## 1.2 Members of the Commission

Sir Tony Baldry MP (chair)  
Sir John Armitt  
Peter Bonfield OBE  
Oliver Colvile MP (deputy chair)  
Alan Crane CBE  
The Earl of Lytton  
The Earl of Mar & Kellie  
Gordon Masterton OBE  
Jack Pringle  
Simon Rawlinson  
Rt Hon Nick Raynsford MP  
Paul Morrell OBE (observer)  
Alison Seabeck MP (observer)

## 1.3 Secretariat

Graham Watts OBE  
Denise Chevin (rapporteur and report author)  
Kamila Tomaszewska  
Rosemary Haddow  
Catharine Gammie

## 1.4 Witnesses

During the course of this inquiry we took oral evidence from the following witnesses:

Alan Coole, Development Director, Scape  
Alan Muse, Director of Built Environment and Colin Smith, Royal Institution of Chartered Surveyors (RICS)  
Alastair McCapra, Chief Executive, Landscape Institute (LI)  
Andrew Smith OBE, the National Improvement and Efficiency Partnership, Hampshire County Council  
David Mosey, on behalf of Association of Consultant Architects (ACA)  
Gary Edwards and Mark Perkins, Shepherd Group  
Guy Hammersley, Chief Executive, BRE Ventures  
Mark Bew MBE, BIM Strategy Group, Department of Business, Innovation and Skills  
Peter Caplehorn, Council Member, Royal Institute of British Architects (RIBA), and Technical Director, Scott Brownrigg  
Rab Bennetts OBE, Commissioner, Design Council CABA  
Richard David, Willmott Dixon, representing the Chartered Institute of Building (CIOB)  
Richard Saxon CBE (and client adviser), Royal Institute of British Architects (RIBA)  
Roderick Bunn, Building Performance Assessor, Building Services Research and Information Association (BSRIA)  
Ross Smith, North East Chamber Of Commerce

## Section 2. Context: the importance of public procurement of construction work

### 2.1 Construction and the economy

The construction sector is a major part of the UK economy. According to the Office of National Statistics its annual turnover of £122bn in 2011 represents between 7 and 8 per cent of the nation's GDP, and it employs 2.2 million people.

The public sector, at national and local level, is far and away construction's largest client, accounting for nearly 40 per cent of spending. It invests £46bn per year in building projects and in infrastructure. It follows that spending public money wisely, by getting the best possible value out of these projects, is of immense importance to the Exchequer and the tax payer.

This procurement influence is also of great importance in shaping the environment and its future sustainability. As the carbon dioxide generated in operating buildings accounts for around half of greenhouse gas emissions, the Government's long term vision of making the UK a low-carbon society depends to a large extent on how wisely it employs and instructs the construction industry.

### 2.2 The challenging nature of the UK construction industry

It is widely acknowledged that a key factor in obtaining better value for money in the supply chain is greater integration of the entire team and more collaborative working. Time and time again, it has been shown that by encouraging early involvement of the supply chain, an integrated project team can work together to achieve the best possible solution in terms of design, buildability, environmental performance and sustainable development.

However, one of the difficulties of improving construction procurement by adopting this process of integration is that the industry is highly fragmented, which naturally runs counter to integration of delivery.

The sector has more than 270,000 active enterprises and 186,000 contracting companies. Over 90 per cent of the companies in contracting employ fewer than 10 workers. Almost 72,000 businesses operate as one man bands and fewer than 130 companies employ more than 600 people. (*Construction Matters*, report of the House of Commons Business and Enterprise Committee, July 2008). Similarly, on the professional services side, there are some 27,950 firms employing 270,000 people and raising £13.9bn in fees according to the last time this separate survey was undertaken in 2005/6 (CIC/ Experian).

To add to the problem, there can be several tiers of subcontracting firms below the main contractor as well as designers and other consultants, all with their own liability and insurance arrangements. This does not lend itself to supply chain integration and leads to much more expensive and potentially adversarial projects.

The industry is also a victim of feast or famine. Construction saw unfettered growth for over a decade or more, leading up to the crash in 2008, with the consequence of widespread skills shortages. The negotiating power resided with the supply side, and the industry could afford to turn away projects that appeared too risky. Initially, the London Olympics projects struggled to find bidders.

The order-book glut made contractors complacent and uninterested in the exacting process of continuous self-improvement. As Paul Morrell, the Government's Chief Construction Adviser commented, writing in *Building* in May 2011: "Until now, the industry hasn't changed because it hasn't had to. It has been relatively protected from international competition, and has enjoyed one of the longest booms in its history. And when things are going well, it is only natural that we congratulate ourselves on how clever we are, rather than seeking better ways of doing things."

## Section 2. Context: the importance of public procurement of construction work - *Continued*

More encouragingly, he added: “Now, by contrast, I think everybody gets it: there is no money. There is still, however, a government that needs to build to meet social needs, and an industry that wants to build.”

### 2.3 Progress to date

#### 2.3.1 Reports and initiatives

Over the past decade and more, there has been a plethora of significant, in-depth reports covering procurement best practice and on delivering improved value in construction. These include:

- Sir Michael Latham’s *Constructing the Team* (1994)
- Sir John Egan’s *Rethinking Construction* (1998)
- The National Audit Office’s *Modernising Construction* (2001)
- The Strategic Forum’s *Accelerating Change* (2002)
- The Office of Government Commerce’s *Achieving Excellence in Construction* (1999 -2003)
- The Strategic Forum’s *Integration Toolkit* (2003)
- The Construction Industry Council’s *Selecting the Team* (2005)
- The Office of Government Commerce’s *Common Minimum Standards* (2005)
- The National Audit Office’s *Improving Public Services Through Better Construction* (2005)
- The Strategic Forum’s *Construction Commitments* (2006)
- The Strategic Forum’s *Profiting from Integration* (2007)

These reports may have helped influence procurement practice, for there has been progress. A National Audit Office report in 2005 showed that:

- 55 per cent of projects were delivered to budget compared with 25 per cent of projects in 1999; and
- 63 per cent were delivered to time compared with 34 per cent in 1999.

Reasons given for the improved performance were varied, but the NAO report concluded that: “The guidance and support provided by the Office of Government Commerce, under the Achieving Excellence in Construction initiative, has made a considerable contribution.”

This report went on to say: “A range of value for money gains from partnering and the early development of integrated project teams is beginning to emerge from the improvement programmes of the case study organisations included in our 2001 report. These include streamlined procurement processes, innovative solutions to the design and delivery of construction projects, fewer legal claims, reduced environmental impacts, safer working and improved whole life costs and value, as a result of more open and integrated team working.”

However, the report said: “Despite the generally positive progress that is being made, there are still many projects across the public sector as a whole which do not fully employ the good construction practice identified in this report and the supporting case study volume. If these benefits and those achieved through the good practices of leading public and private sector organisations, can be applied more widely, then considerable value for money gains and service delivery improvements could be achieved in future public sector construction projects.”

## Section 2. Context: the importance of public procurement of construction work - *Continued*

Following the 2005 NAO review, the Office of Government Commerce launched a suite of common minimum standards, in an attempt to improve consistency in construction procurement across the public sector. These standards consolidated existing best practice as set out in 2006's *Achieving Excellence* report.

The standards formed the basis of a set of Construction Commitments, launched in July 2006 for incorporation in the construction of London's Olympic venues, but with the intention of being applicable to all public sector construction projects. Their main focus was on: encouraging early involvement of the supply chain; fair payment periods of no more than 30 days; clearly expressed leadership by clients, underpinned by a well-researched vision and business case for the construction of the project; client championing of best practice in design team-working, innovation, health and safety and sustainability.

The success of the Olympics construction programme – on time and under budget and with an impeccable sustainability and safety record – is well known. However, despite many other clients and industry firms pledging to sign up to the Commitments, uptake of these and the standards has been limited, according to *Construction Matters*, the report published in July 2008 by the Business, Enterprise and Regulatory Reform Select Committee (the forerunner to the Business, Innovation and Skills Committee).

*Construction Matters* made a key recommendation to overcome inertia in implementing common minimum construction standards. Having highlighted the lack of a senior civil servant to drive improvement in construction procurement across various government departments, it called for the appointment of a Chief Construction Adviser to provide a single point of responsibility between the industry and the public sector. The intention was that this would overcome the problem of fragmentation of construction policy and procurement across government.

The recommendation was acted upon by the then Labour Government, with Paul Morrell appointed to the post in December 2009. In July 2012, the Government announced that Peter Hansford will succeed Paul Morrell as the Chief Construction Advisor, at the end of this year.

### 2.3.2 CIOB Research on procurement – December 2010

Further evidence suggesting procurement can be improved came from a survey carried out by the Chartered Institute of Building of 500 of its members in 2010.

According to the report, which was not specifically about the public sector:

- 77 per cent of respondents believed clients are not sufficiently knowledgeable about procurement in the construction industry, which often leads to poor advice being taken and results in a project coming in over-budget, outside of time frames, or to a poor standard.
- 93 per cent of respondents have been involved in projects that overran in terms of cost.
- 57 per cent of those who had been involved in these projects believed that the chosen procurement method directly contributed to the cost overruns.
- 94 per cent have been involved in projects that were delivered late. Of those, 49 per cent believed the chosen procurement method directly led to the time overruns.
- 50 per cent of respondents indicated that a lack of communication is the most significant problem arising during the procurement process.
- 46 per cent believed that alterations to client requirements are a problem.

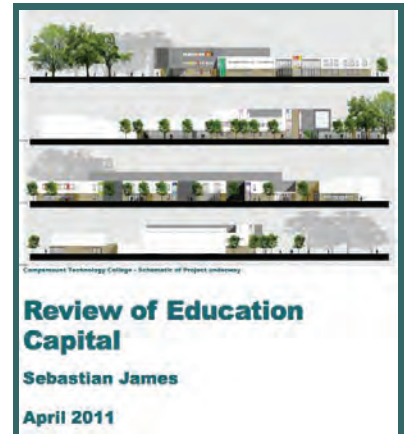


## Section 2. Context: the importance of public procurement of construction work - *Continued*

### 2.3.3 The James Review 2011

In 2010, a senior businessman, Sebastian James, was asked by the Prime Minister to lead an independent review into how capital is spent on schools in England. Amongst other aims, he was tasked with suggesting ways to overcome “the burdens imposed by an accumulation of broken processes” and look at “value for money of capital investment.”

The James Review of Education Capital was strongly critical of the Building Schools for the Future programme, suggesting that it could have been delivered 30 per cent cheaper. Mr James said: “I have found that the system of capital allocation and spending which has developed over at least the last decade has frequently resulted in poor use of resources, a bureaucratic system for providers and local authorities and a mixed – and at times poor - outcome for both parents and children [...] Because procurement has not been sufficiently centralised and because the Government has not ensured that contracts are always negotiated by those who have the appropriate expertise, the public sector has failed consistently to get the value it should have done, given the commercial leverage that this scale of programme should command.”



He concluded: “Through a more standardised approach to design and an expert, centralised approach to the procurement and delivery of major projects, greater quality and value for money can be achieved.”

### 2.4 New dawn – Government Construction Strategy

Following its Infrastructure Cost Review of December 2010, which identified potential savings of £2-3 billion each year in infrastructure projects, the Government launched a new procurement strategy for building projects in May 2011. Essentially, this gives more teeth to the various initiatives that have been unveiled over the past few years. The overarching aim is to reduce costs by 20 per cent within this term of Parliament.

Yet again, the review advocates integrated working to reduce costs. But this time, to ensure that costs actually do fall, it is harnessing Building Information Modelling (BIM). By 2016 all public sector projects will be procured using BIM-computer systems that provide digital representation of physical and functional characteristics of a facility which is shared between all parties in a construction project, including the client.

Each professional adds discipline-specific knowledge to the single shared model. This reduces information losses that traditionally occurred when a new team takes ‘ownership’ of the project, and provides more extensive information to owners of complex structures.

Also, to enable the industry to plan ahead in preparation for building activity, the Government is promising to publish yearly rolling workloads. The visibility of the forward pipeline will enable the industry to make its own judgments and plans for investment in skills, products and services aimed at that programme.

If there is one overriding approach in the Government’s strategy, it is the creation of a stronger and more joined-up client, with the foundation of a powerful construction board, chaired by the Chief Construction Adviser, Paul Morrell and his successor Peter Hansford. The board will co-ordinate projects across the public sector and publish a rolling, two-year forward programme of projects on a quarterly basis.

It also aims to simplify prequalification. The myriad different pre-qualification questionnaires are set to be replaced with PAS91. This single measure could save individual contractors up to £40,000 a year in time and costs, according to the Electrical Contractors Association.

## Section 2. Context: the importance of public procurement of construction work - *Continued*

The strategy is based on the following assumptions:

- Clients issue a brief that concentrates on required performance and outcome, while designers and constructors work together to develop an integrated solution that best meets the required outcome.
- Contractors engage key members of their supply chain in the design process where their contribution creates value.
- Value for money and competitive tension are maintained by effective price benchmarking and cost targeting, and by knowing what projects should cost, rather than through lump sum tenders based on inadequate documentation.
- Where appropriate, supply chains are engaged on a serial-order basis of sufficient scale and duration to incentivise research and innovation around a standardised (or mass customised) product.
- Industry is provided with sufficient visibility of the forward programme to make informed choices (at its own risk) about where to invest in products, services, technology and skills.
- To enable clients to make better choices and be aware of current prices, bench-marked costing tables and prices from previous projects will be published.
- By trialling three different procurement routes – all based on integrated teams and contractor led procurement, some collaboration will be achievable but there will still be competitive tension with regards to price.

### **2.5 New building strategy**

In February 2012, the Government said that savings of 2 per cent - equating to £180 million - had been achieved on the 2009-10 benchmark target. It also revealed that Government was spending twice as much on some building projects as on others. For example, refurbishments under Procure 21 health framework in 2009/10 varied from £1,130 to £2,450 per square metre. Other indications of progress announced at that time included:

- A £6.7m leadership academy for major project leaders in the civil service was to be set up.
- Three new preferred procurement routes were to be utilised.
- The Ministry of Justice signed up to Level 2 BIM technology on four prisons.
- In other procurement pilots, seven government schemes, worth more than £30m in total, will pilot three new forms of contract across four departments. Integrated project insurance is to be one of these trial procurement routes, whereby the client has one insurance policy that covers the entire integrated team.
- The Environment Agency and the Ministry of Defence are to take forward cost-led procurement, which will involve contractors within framework bidding according to cost bench-marks. The Homes and Communities Agency and Environment Agency will take forward a modified version of this called two-stage open book under which contractors will have to work up detailed proposals on an open book basis.

### **2.6 Infrastructure review on track**

The Government is also on track to cut the costs of delivering infrastructure. It has recently published the first annual report of the three year Infrastructure Cost Review programme, launched in March 2011 and led by Infrastructure UK.

The Cost Review sets out plans to reduce the cost of delivering infrastructure in the UK by £2 to £3 billion a year by 2015. The new report confirms that the programme is on track to deliver these savings, with the first annual report having already identified projected savings of up to £1.5 billion, through changed behaviours and practice, consistent with the Cost Review principles.

## Section 2. Context: the importance of public procurement of construction work - *Continued*

Examples of savings include a projected 20 per cent saving (over £600 million) on the 20 major projects being delivered through the Highways Agency's Managed Motorways and Trunk Road Improvement programme, through managing projects more strategically, allowing them to work better with their supply chain and deliver savings.

London Underground also expects to deliver over £400 million efficiency savings through more effective project management.

These examples, along with the others detailed in the report, represent evidence of good progress towards the overall objective of £2 to £3 billion savings per annum by 2015.

## Section 3. Educating the client: challenges, recommendations & examples of good practice

### 3.1 Equipping public sector clients with the expertise they need

Public sector clients are often poorly equipped to commission construction work. One of the most consistent messages we encountered during the course of our inquiry was the dearth of expertise in the public sector. Efficiency and value for money is hampered by clients not knowing what it is they want, how much they need to pay for it, and how to select the team which will deliver the best project. Unless this gap in knowledge is plugged in some way, then better construction procurement will continue to elude the public sector.

Alan Coole, Development Director of Scape, summed up the sentiments of many of our witnesses when he told us: “In my experience the bulk of clients have not thought through what they really want out of a building. They may know they want a building and what size it needs to be. But usually insufficient thought has gone into thinking about how they will use it. One of the things we have developed in recent years is a tool kit which helps clients work out what they want. Getting them to think about that, takes a lot of risk out of change later on.”

There is also the issue that, unlike in the private sector, where there is often one person responsible for driving a project from start to finish, this is rarely the case in the public sector. Alan Muse, RICS Director of Built Environment, told us it’s not necessarily a case of “Private good, public bad,” saying: “I think the difference is more between pluralistic and unitary clients. It’s multi - stakeholders that create the difficulty in the briefing process.”

Peter Caplehorn, RIBA council member, agreed and added: “In many commercial projects there is often a figurehead and they drive it hard. And there is clarity of thought and direction. Where you have a multi-headed client you don’t have that clarity.”

One solution put forward to fill the gap in know-how, and one that certainly requires more consideration by clients, is to appoint a professional client advisor.

Six years ago, the RIBA created a cohort of accredited client advisers who work with clients and their user stakeholders from the pre-project stage to help define and write their business plan, set out the brief, check feasibility, communicate with bidders and support the client through their many decisions. They replace the now vanished chief architects of departments and local authorities who helped set up projects but did not design them. The client adviser becomes a strategic contributor to project effectiveness.

The Scottish Parliament has published a construction procurement manual, which formalises the role of the client adviser to provide support to public clients.

Richard Saxon, a client adviser representing the RIBA, said that a client adviser would prove an even greater asset under the Government’s preferred procurement routes, where the new procurement strategy proposes to hire only “integrated teams”, designers and builders in concert. The strategy proposes not to provide detailed designs to competing teams but to state the budget available, based on benchmarked similar buildings and the “outcomes” required in the building’s performance. “Demanding outcomes is very different – if you’re building a school, it’s not about saying we want so many square feet; it’s about improvement of exam results, and it’s up to the supply team to work out how and what they need to provide to best deliver that,” said Mr Saxon.



## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

He added: “It’s a huge subject to know what and how to ask for these outcomes. These days, public clients are expected to be able to do five key things: set up a decisive stakeholder team; know how their project will create the outcomes required; know how to take it to market and at what price; be able to communicate with the supply chain; and sponsor the project successfully from start to finish. I think this would seem very scary for someone in the public sector who has never been a client before. People don’t know how to take it to market and get what they want and get best value.”

Mr Caplehorn, representing RIBA, agreed, saying: “The client adviser identifies the problems and the issues. It might be that it’s not a building that’s actually required. Yes, it means paying for another consultant, but it could be money well spent.” He cautioned: “Whoever is advising the client needs fresh experience and a fresh knowledge of what’s going on.”

The three proposed procurement routes the government is championing are all contractor-led and, therefore, involve early contractor involvement. It is our view that this approach will demand greater skills of the clients.

We believe that the amount of support required by public sector clients, who invariably are undertaking building procurement alongside other roles, cannot be underestimated.

### **Recommendations**

- At the outset, clients need to give more time and resource to the development of a project brief. Clients need to be absolutely clear why they are embarking on the project, what is it they need in terms of outcomes, and how they intend to go about it.
- Clients must also ensure they allocate sufficient resource to the overall project management by themselves or a management partner, in order to reduce risk and create a successful outcome.
- Clients like local authorities, which in the past would have had a figure like a borough architect to turn to for advice, would benefit from using a client adviser or project manager to deliver clear, tested and feasible briefs with minimal in-project changes. For infrequent clients, appointing a professional client adviser is essential.
- The role could possibly be akin to a development manager in the private sector – that is to say, outcome focused, combining commercial and design excellence skills, with effective stakeholder management.
- As the problem of inexperienced clients has been repeatedly highlighted, Government, through the Chief Construction Adviser, should consider setting up a Best Practice Procurement Advisory Group to assist inexperienced public sector clients (including government departments, agencies, non-departmental public bodies and local government) to define their objectives clearly and adopt appropriate procurement arrangements for the size and type of project. The costs of the unit should be met, after an initial period which will require pump-priming support, by fees related to demonstrable benefits achieved through better procurement.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### **Good practice 1: Why it pays to invest in pre-construction time**

The pre-construction process is rarely carried out thoroughly, as investment in this period is often viewed as a waste of fee for little tangible outcome, according to Richard David, of Willmott Dixon representing the CIOB.

Mr David said that a core project board should be developed at inception stage to assess the aims and objectives of the scheme, particularly with large public sector projects such as universities and hospitals. These project boards should be charged with engaging the correct stakeholders at the correct time and ensure that the end-user requirements are identified at an appropriate stage.

Mr David had come to this conclusion after carrying out a study, which found that variations and a lack of design information were the leading causes of delays to construction projects. In 64 per cent of cases, these variations were as a direct consequence of reciprocal work flow (RWF) occurring within the construction phase of a project. RWF is when individual parties have differing design priorities that interact negatively upon each other, said Mr David. "For example, the architect and structural engineer both rely on each other heavily at design stage; however, they have different sub-clauses. The architect might want no columns on the floor; but the structural engineer wants to add extra columns into the design to make the building more economical. This is a disruptive form of workflow that can only be resolved through compromise. It is time-consuming to resolve, and costly in terms of change."

"This stage has an essential part to play in the design process but it should be confined to the pre-construction phase of any project," he said.

When work enters the construction phase of this project's life cycle, it should only take the format of sequential work flow – that is, work that flows from one part to the next in an orderly fashion, without delay or disruption.

The procurement model chosen for a project will have important implications for its cost certainty, overall length of the project life cycle and functionality of the end product. The model of procurement selected determines from the outset how the different parties will engage and function within the delivery of the project, as well as establishing the hierarchy of control required to deliver the scheme successfully.

To summarise the research, it was determined that the correct selection of procurement was the most critical factor in determining the success of the project. "The key to the correct selection of the procurement model is understanding where you are in the process, that is, how much reciprocal workflow you have left to deal with before committing to the procurement model and pressing the start button," said Mr David.

### **Good practice 2: A new British Standard on construction procurement**

The new British Standard on construction procurement, BS 8534:2011, gives recommendations and guidance on the development within a public or private sector organisation of policies, strategies and procedures for the procurement of construction in the built environment. We recommend that public sector clients adopt the procedures set out in the standard.

The new standard was published earlier this year. Professor Will Hughes, School of Construction Management and Engineering, University of Reading, who was involved in its drafting, explained in a written submission that the standard would benefit whoever is procuring construction work, whether clients, main contractors or large specialist trade contractors.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

The standard came about through a series of workshops sponsored by, what was then, the Department of Trade and Industry and its successor, the Department for Innovation, Universities and Skills. These were organised by British Standards Institution (BSI) and Constructing Excellence in the Built Environment (CE). Meanwhile, the International Standards Organization (ISO) was also drafting a standard related to construction procurement. The distinction between ISO 10845 and BS 8534 is that the former is focused on developing a detailed framework for tendering and selection, while the latter is focused on the development of policies, strategies and procedures that underpin collaborative working in both public and private sector construction. The British Standard complements ISO 10845 and is aimed at a strategic level, seeking to represent in one document all the various “best-practice” guidance, that has been issued over the past 20 years.

Professor Hughes’ submission said: “Developing collaborative approaches and best-practice guidance has been piecemeal in the past, but now we see a means for maintaining and developing practical guidance that is accessible to anyone. It remains complex and difficult, but to a certain extent has been demystified. Construction projects come in many shapes and sizes, so there cannot be a one-size-fits-all approach to construction procurement. These new standards enable the development of individual processes, tailor-made to the circumstances of particular projects or programmes, providing a rational and economic response to complexity. More importantly, they enable processes to be developed that engender collaborative working practices, rather than the more traditional adversarial and self-interested approaches that were common in the construction sector of the 20th century.”

### **3.2. Selecting the team and setting performance targets**

#### **3.2.1 The need for an integrated team**

So much research exists on the benefits of appointing integrated teams and as such we wholeheartedly support this approach. Using an integrated team approach, whereby the key members of the team would normally bid together, brings all participants together early in the project where the most value can be created. The close collaboration eliminates a great deal of waste in the design, and allows data sharing directly between the design and construction team, eliminating a large barrier to increased productivity in construction.

However, we are aware that this can potentially create an unhelpful division between the client and designer which is likely to be detrimental to achieving the best outcome. If you want a truly iconic piece of architecture, say for a world class museum, you might start by choosing the architect.

#### **Recommendations:**

- Projects must be procured on the basis of integrated teams (designers, contractors and, where appropriate, asset managers) with the ability of teams to work together as one of the selection criteria within a balanced scorecard (see below).
- At the same time, a dialogue between clients and the design team, in a contractor-led procurement, is to be encouraged while designs are being developed.
- Clients must ensure that they and their project management team (if they have one) meet the nominated individuals of their lead consultants and contractors and have the ability to accept/reject on the basis of culture/fit.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### **Good practice 3: How to choose the best design for the project**

As a number of witnesses pointed out, lack of expertise means that clients use selection criteria that are not appropriate to the size, type and nature of the design work required. This can result in inappropriate designers being selected both at the shortlisting stage and at the final selection, said Rab Bennetts representing Design Council CAGE (the organisation formed by the merger of the Design Council and the Commission for Architecture and the Built Environment). While the cost of design is a very small proportion of the total project cost, it has a direct relationship to overall value, including lower capital cost, lower running costs and higher quality.

Mr Bennetts said there was often too much emphasis on the designer's previous experience. While a track record is sometimes important, all but the largest firms of designers are precluded from winning work when the assessment criteria emphasise previous experience. This is especially true of small and medium projects, although many high-quality designers are not based in large firms.

Another problem is scoring systems that skew the assessment process. For example, whilst an assessment based on a quality: cost ratio of 70:30 might appear to favour good design, the opposite is often the case. A low fee bid may win 30/30 points, whereas the highest might receive 0/0, thereby placing the latter at an impossible disadvantage against bidders that may be inadequately resourced.

Mr Bennetts said, "It is rare to find a selection panel that includes a designer, such as an architect, with the experience to understand the proposals on offer and advise the commissioning authority on the issues to be addressed." Also, he said, "procurement decisions are often influenced by visuals as opposed to design substance."

Design Council CAGE is urging industry bodies to develop a code of practice for appointing designers which would fall within the EU procurement rules.

The key features of the code would include the following:

- **Expert design advice for the client body.** Design Council CAGE already has a network of several hundred "enablers" throughout England who can provide this type of impartial advice, from selection criteria to assessment at interviews.
- **Standardised capability assessment.** Rather than consider a design firm's capability at the time of tender, there should be a database of information on all registered firms that can be updated, say, twice a year. This would include, for example, financial standing, insurance verification and relevant policies such as Health & Safety.
- **Appropriate selection criteria.** These criteria should directly reflect the values of the project and would be arrived at by discussion with the expert advisor, prior to the Official Journal of the European Union (OJEU) Notice being posted. They could vary significantly between different projects.
- **Relevant requirements in relation to size scale and experience.** Very large projects clearly require a significant track record and a substantial team, but many smaller or medium-sized projects can be delivered by modest-sized firms.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### 3.2.2 The need for a balanced score card approach to selection and performance targets

Too often, our witnesses told us, selection of the winning bids seemed to be based on price – or so weighted towards price that the other criteria appeared irrelevant.

Witnesses also said that if clients were more knowledgeable and knew which questions to ask, it would reduce bureaucracy, risk aversion and the reliance on idiosyncratic scoring. As Alastair McCapra of the Landscape Institute explained: “The problem with some types of scorecard is their weighting structure. Typically, 70 per cent of the criteria relate to cost and 30 per cent to design quality. Because the people evaluating the score card don’t really know what they’re looking for, in terms of design, and can’t differentiate very well between the quality of different schemes, they end up marking quality of design 28 or 29 out of 30, because they don’t know what questions to ask.”

Our view is that bidders should be selected against a range of criteria, a so-called balanced scorecard, which are important to the project and which can then form the basis of performance criteria. In the construction of the London 2012 venues, for example, the priorities were enshrined in the 2012 Construction Commitments, a set of principles and priorities drawn up by the Strategic Forum for Construction in conjunction with Government departments. The aim was to ensure that the project was outstanding on a number of fronts, including safety and sustainability, and provide a social benefit like employment for local people. But, despite these commitments subsequently being reworked for general use, their take up has been disappointingly limited. Enshrining commitments in the large public projects should be a given in our opinion.

Once clients have established clear priorities and performance targets across a range of themes, they should embed them in all stages of the project and down the supply chain. The goals of the client, design team, constructor and their supply chain should be aligned via contractual terms.

The BRE’s Guy Hammersley gave examples of UK projects, where different types of balanced score cards were being used to drive improved performance. On the construction of the London 2012 venues, performance standards like BREEAM, the Code for Sustainable Homes and CEEQUAL were required. These gave the designers, contractors and suppliers clear performance targets to deliver (that is, BREEAM Excellent for all sporting venues and Code Level 4 for the Olympic Village) together with a consistent methodology by which to benchmark performance.

Mr Hammersley said that, “Critically, these standards do not prescribe what to buy, which would constrain innovation. Instead, they provide a consistent method to measure and compare innovative approaches. The outcome is that companies and professionals innovate to offer the greenest, most cost-effective, lowest risk and easiest to construct solutions.”

Olympic Delivery Authority Chairman, Sir John Armitt, produced a report on how best to capitalise on the success of the Games, *London 2012 – a global showcase for UK plc*. Among the report’s recommendations were that the Government should adopt the principles of the procurement and programme management approach used by the ODA for all public sector projects valued at over £10m – including recognising the benefits of a ‘balanced scorecard’ approach to procurement and incorporating other criteria, like sustainability, health and safety, in addition to time, cost and quality.

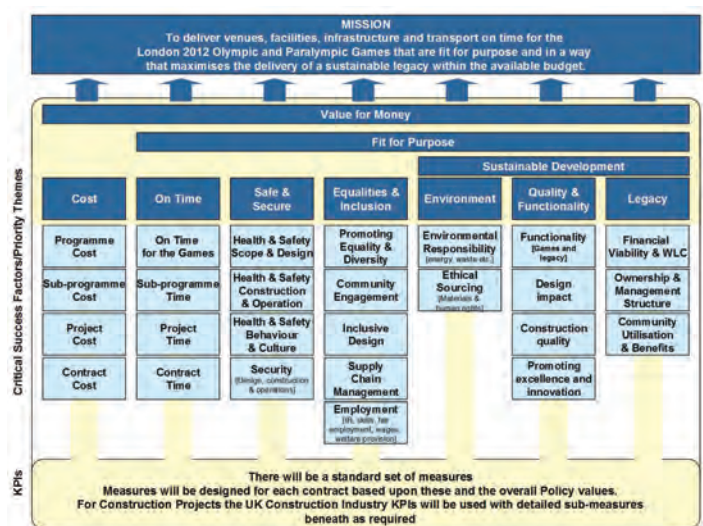


Image courtesy of ODA

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### Recommendations

- In our view, bidders should be selected on the basis of a “balanced scorecard,” that is, marked against a range of criteria deemed as priorities for the project, and not just lowest cost. Sustainability should be included in the criteria. As part of this process, it is important to establish clear performance targets across the range of themes important to the project, and embed them in all stages of the project, including procurement. Performance standards, like BREEAM, can provide consistent methods of benchmarking across a range of disparate, but interconnected, factors.
- Large-scale public projects (e.g. £100m-plus in value) should have mandatory construction commitments, based on the 2012 Construction Commitments, on which they would be required to report over the duration of the project. At the same time, the Government should encourage voluntary adoption of such construction commitments across a wide range of public and private sector projects with a programme of promotional activity, including awards, to highlight and celebrate success. Key indicators could include: client leadership, sustainability, team integration, design quality, health and safety, and commitment to people, which includes a commitment to employing local people and excellent facilities.
- It is also essential that clients engage with the supply chain and ask partners to respond against a brief which describes performance outcomes required (innovation enabling), rather than prescribing the types of products or solutions required (restricting innovation) and then work with the supply chain during design, prototyping and construction, using a clear set of performance measures and audit.
- Projects should also be procured on the basis of capital and operating costs. Bidders should be required to include an estimate of operating costs, and forecast of a BREEAM or LEED assessment. These can then be taken into account in the quality part of the tender review, and converted to a quality score in the bidding process.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### **Good practice 4: London 2012 Construction Commitments**

The 2012 Olympic and Paralympic Games offered a unique opportunity to showcase the very best of Britain's construction industry. The onus was on the Olympic Delivery Authority to deliver sustainable, exemplary projects with long-term benefits for the local community and the nation. At the heart of meeting these expectations was a set of principles and priorities – the 2012 Construction Commitments – that could then be embedded as targets throughout the procurement and construction to help ensure the industry exceeded current best practice.

The 2012 Construction Commitments were developed by the Strategic Forum for Construction's 2012 Task Group, in conjunction with the Department of Culture, Media and Sport, the Department of Trade and Industry, the National Audit Office and the Mayor of London.

The document – entitled “*2012 Construction Commitments*” – covers six key areas of the construction process and is designed to promote collaborative working and ensure the successful delivery of the Games infrastructure, buildings and subsequent legacy.

Areas covered were:

- Client leadership;
- Procurement and integration;
- Design;
- Sustainability;
- Commitment to people; and
- Health and safety.

For example, requirements included all contracts to incorporate fair payment practices, such as payment periods of 30 days, no unfair withholding of retentions, and project bank accounts, where practicable. There was a great onus put on providing local employment opportunities, training and apprenticeship opportunities for local people; and a strong health and safety ethos to ensure an injury-free culture for the construction of 2012 venues.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### **Good practice 5: Collaboration through partnering contract PPC2000**

One of the more successful tools for delivering improvement in procurement would appear to us to be the partnering contracts that solicitor Trowers & Hamblins produced 11 years ago, after the Egan Report. The PPC2000 contract was described, in an independent report by Arup for the Office of Government Commerce, as “a complete procurement and delivery system, distinct from other types of contract available.” David Mosey, a partner at Trowers & Hamblins, reports that, according to RICS, 6 per cent of all UK construction projects in the past 10 years have used it, and the client in a number of those was central and local government.

Its key features, unlike other forms of contract, are that it combines a two-stage procurement structure (an early, conditional appointment, followed by an unconditional one) in conjunction with a single contractual hub that everybody signs. So, the parties sign a contract on the basis of early information. They then have a set of programmed activities to finalise design, working with the contractor as well as with the consultant team, building up price, building up sub-contractors and suppliers through a joint and very clear process, getting to the stage where there is sufficient pricing and programming information for the project to start on site.

Mr Mosey said: “This contract, in all its 11 years of use, has never been to arbitration or litigation. That is bucking a trend. I’d suggest it’s perhaps underestimated what this approach can achieve. The contract was used for Job Centre Plus, achieving a 24.8 per cent savings against a £981m forecast.”

However, Mr Mosey conceded that partnering contracts had sometimes lost sight of the commercial realities and did not always deliver the best value. But he added: “I think, over time, the contractor has become a lot leaner and more disciplined.”



### **Good practice 6: Success using the New Engineering Contract forms (NEC3)**

In terms of fostering collaborative working, it is difficult, if not impossible, to prove conclusively that one type of contract is better than any other, because it can never be categorically shown what the cost of a scheme would have been, if a different form had been used. There are no “ceteris paribus” comparisons available.

However, The Construction Clients’ Board (formerly Public Sector Construction Clients’ Forum) recommends that public sector organisations use the NEC3 forms when procuring construction. In addition to this endorsement, NEC3 was praised in the *Construction Matters* report, produced by the business select committee, which calls for transparent and non-adversarial forms of contract to support integrated supply chains. The report states that NEC3 is “setting the benchmark” in this area.

In the report by The Comptroller and Auditor General (HC 1834 session 2010–2012, dated 28 March 2012), entitled “The completion and sale of High Speed 1”, a comparison with the West Coast Main Line upgrade is made, which suggests that the improved delivery of High Speed 1 could be due in part to the use of the NEC3 form of contract.

*Images courtesy of Trowers Hamblins*



## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

Constructing the high speed line, including additions to the project scope funded separately, cost £6,163 million (outturn costs). The total cost of building the line was 18 per cent higher than originally forecast. Of this, eight per cent of the total was due to work instructed that was additional to London & Continental Railway's (LCR's) combined contract targets for both sections. LCR funded this in part from contingency. The line fully opened in November 2007, within the overall timetable to complete the project by December 2007, but 11 months later than the original target. This still compares well with performance on the West Coast Main Line upgrade where costs rose by over £6 billion (240 per cent) and the upgrade was delivered four years late.

As well as the £6.2bn High Speed 1 and the associated St. Pancras station redevelopment, a number of large-scale infrastructure contracts are using the NEC3 for their procurement. These include:

- Al-Raha beach development in Abu Dhabi – value £10.3bn
- Crossrail – the biggest construction project in Europe with a value of £14.8bn
- Olympic Delivery Authority –Construction of the venues and infrastructure for the London 2012 Olympic and Paralympic Games with a total value of £9.3bn.
- UK Department of Health (ProCure21) – framework value £3.4bn

### **Good practice 7: Performance Related Partnering**

Performance Related Partnering (PRP) is a procurement method being used by Health Estates, a body within the Department of Health in Northern Ireland, across its £3.5bn construction programme.

“The procurement is based on achieving the highest quality, balanced against whole life costs. PRP manages to combine early contractor involvement once the client has established what it wants with the design team. The ‘what’ we’re going to build is established prior to contractor involvement; and the ‘how’ with the contractor, so there’s a maximum impact of ‘how’ on ‘what’”, the RICS’s Director of the Built Environment, Alan Muse, told us.

There is one contract for project design services (selection of an integrated design team based upon a design competition at a pre-set fee); and one for the construction work. Therefore, selection of the construction team is based on best quality and value for money against pre-determined budgets, not on lowest cost.

The budget costings are based on the actual sketch design, rather than a benchmark, which can be sometimes difficult to compare; the quality remains totally in control of the user; design team and contractor work in equal partnership during the design development stages; and there tend to be very few contractual disputes.

The project delivery outcomes have been benchmarked against 10 headline key-performance indicators – and there has been a continuous, year on year improvement. (41 of 42 of the projects have been delivered within the outline business case costs.)

However, the criteria has now changed to a 30-70 quality-price ratio, so there has been due cognizance of the age of austerity and the need to save money. If the Guaranteed Maximum Price cannot be agreed, then it’s moved to competition with six shortlisted tenderers with selection based on lowest price – which we felt to be disappointing, if the methodology was delivering a good outcome.

### **Good practice 8: CIC Scope of Services**

Projects are increasingly complex; integration of architecture and engineering, multiple specialisms, staging and delivery mechanisms and external influences. This creates a need for greater efficiency in the design of buildings and infrastructure assets, and greater precision in roles, duties and scope than ever before.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

The CIC Scope of Services addresses these needs by focusing on providing clarity to the 'design process'. It uses the term 'definition' to acknowledge that far more than design is involved and not all of those participating in the process undertake design. It includes costing, programming, planning, procurement, health & safety, management, co-ordination, monitoring against the client's aspirations and objectives, etc. And it takes the project from inception to post practical completion. This holistic approach means that it can be used with most procurement approaches, and is independent of contract terms.

There are a plethora of forms of contract used for the procurement of definition/design services and most have bespoke scopes of services added to them. These are not carefully integrated across the roles with parties often not knowing the contracted responsibilities of each other. Research has shown that the single most common cause of disputes is lack of clarity in responsibilities. The CIC Scope of Services provides the only fully integrated detailed scope of services for all the primary roles.

This gives users of the CIC Scope of Services the following benefits:

- Integration of multiple disciplines to achieve project objectives;
- Transparent responsibilities for project definition tasks;
- Clarity of inter-relationships and interfaces between definition tasks;
- Elimination of inconsistencies, and over and under-laps between individual scopes;
- Team alignment, based on clear expectations and shared understanding;
- Flexibility to respond to project definition outputs, e.g. as procurement routes are agreed; and
- Leading to elimination of waste, giving greater efficiency and team effectiveness.

### 3.3 Increasing competition by cutting bureaucracy

#### 3.3.1 The problems of EU procurement rules

We were repeatedly told how overly burdensome rules and regulations were stifling efficiency and adding to costs – and reducing competition by cutting out small firms. A tick-box mentality can pertain amongst clients who are risk-averse and often overload prequalification questionnaires with questions that have no relevance.

Peter Caplehorn, representing RIBA, said there was need for urgent reform to ensure that clients took a more logical approach to procurement. "There are UK rules, European Rules, legislation in general, individual client requirements and a risk adverse atmosphere," he said. In a written submission, the RIBA also said that current public sector procurement practices prevent open competition and innovation. It said that this often had the effect of stopping small, local, experienced and specialist niche consultancies from accessing business. New research currently being carried out by the RIBA has shown that small practices are being priced out of bidding for work, because costs were so high—ranging from £250,000 to as high as £1.2m.

Rab Bennetts, representing Design Council CABE, agreed. He said that private sector organisations are better at procuring buildings because "they have the power of decision. That age-old triangle between the client and the architect and the contractor is still the dominant model in the private sector. And if your client wants to choose you because they like your design but your fees are too high, then there will be a conversation. It's common sense, whereas in the public sector, it's all about risk management."

There is a perception that the public sector's "tick box mentality" is often amplified by the EU Procurement rules, which decree that all public sector contracts above £173,000 for supplies or services and more than £4.3m for works must be advertised in the Official Journal of the European Union. There are four different procurement procedures which can be applied. However, as other witnesses remarked, it wasn't so much the rules themselves but the UK's overzealous interpretation of them which can create problems.

Alastair McCapra, Chief Executive of the Landscape Institute, said: "The impression from our members is that people feel they are involved in complicated risky projects and if it goes wrong it will reflect badly on them. So they think the appropriate thing to do is to chuck as many procedures at the project to cover themselves. That's why we need a change of culture."

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

Gary Edwards of Shepherd Group told the Commission: “For us, the procurement process has to enable dialogue. In our experience, the public sector approach to the procurement process actually stops the ability of people to get around the table and engage with what you really want to achieve.”

We understand the fear of being challenged by losing bidders is a very real one; hence the need to be able to demonstrate the selection procedures are ruthlessly objective. But we would appear to have defaulted to tick boxes and scoring, to the extent that “the process is king” and what is overlooked is consideration of the quality of what is being offered and its benefit to the end user. The EU procurement rules are currently under review and there is expectation that the rules will become more flexible. However, these changes are unlikely to happen before 2014.

### Recommendations

- We need to see the intelligent application of the European Procurement Directive. EU procurement rules must not be interpreted to prevent procurement, which gives proper focus to an underlying basis of trust and a collaborative approach.
- Public sector clients need better guidance to help prevent them from over-interpreting EU procurement rules, which can create barriers to entry and a tick-box mentality. Public sector clients need to feel confident that, should they act to make their decisions on a more “value driven” basis, they will subsequently not be subject to unreasonable challenge.

### 3.3.2 Pre-qualification and PAS 91

A survey conducted in 2011, by the Chartered Institute of Building among its members, revealed that 55 per cent of the respondents believed that simplified pre-qualification questionnaires (PQQs) are vital to increasing competition levels for contracts. Not only would this decrease overall cost, but it could facilitate a more integrated supply chain and result in a decrease in waste.

The Government has been attempting to make inroads into this with the introduction of a pre-qualification standard, supposedly, to cut down on the plethora of pre-qualification formats they were being asked to meet on public sector projects.

The pre-qualification standard, PAS91 (Publically Available Specification), has not been an unqualified success and is currently being reviewed. RIBA has issued its verdict on the Government’s proposed standard approach to prequalification questionnaires (PQQs), which is that, in its current form, its requirements are clearly geared towards contractors and fail to accommodate the different role played by the professional consultant.

Witnesses were critical that PAS91 allowed the submission of unlimited amounts of supplementary information to justify the answer to a question, which weighted it in favour of larger companies, with greater resources than smaller competitors. Other complaints were that PAS91 was not being applied at all; or even if clients were using it, they were also asking supplementary questions, which defeated the idea of PAS91 simplifying prequalification processes.

### Recommendations

- If we are to drive out waste in the pre-qualification stage, we need to ensure that disproportionate demands are not made of the bidders, and that there are no disproportionate barriers to entry. For example, unlimited liability clauses should be expunged. Liability should exist, but it should be capped at a level that is sensibly related to the quantum of the services provided.
- Prequalification questionnaires should be sensible in their scope and not exclude small and medium-sized enterprises from appropriate work.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### 3.3.3 Frameworks and SMEs

One area where public sector procurement has been changing over the past decade is in the use of frameworks, whereby bidders are chosen to work with a client over a fixed period, for instance five years. The bidder may be one of several, who then have to go through mini bids to win actual projects, or the sole framework supplier who then does all the work. Another development has seen the likes of local authorities bundling contracts together.

Several witnesses claimed that the impact of both these trends has been one of closing down opportunities to small and medium sized companies, because of the cost of bidding and because the contract sizes are deemed too big. Speaking at the All Party Parliamentary Group for Excellence in the Built Environment in 2011, the Right Honourable Francis Maude MP, Minister for the Cabinet Office, picked up on the issue. He promised to bring in a new era of public sector procurement, which would open up markets to new players and encourage civil servants to make their selections, based on value judgements rather than the number of points a company might have clocked up on a lengthy qualification questionnaire.

Mr Maude said that the business of tendering “was a costly process for the suppliers, so the smaller ones drop out and you end up with a less competitive environment. For us, with a massive budget deficit, it’s essential we get new entries into the market. We need to encourage innovation.”

This presents us with a dilemma. The perceived upside of framework agreements is that they encourage more integrated working because the prospect of a pipeline of work keeps supply teams together. Frameworks also create a partnership with the client team which helps get better value for the Government and the tax payers.

The downside of frameworks is they potentially reduce competition because smaller companies are often deterred from bidding, as the process is often overcomplicated and costly and they do not have the resources. An overzealous interpretation of EU procurement rules by some public sector bodies is to blame for this, according to some witnesses, who claim they are losing out on getting the best value for money because of it. A recent report by the Housing Forum concluded that the use of frameworks, coupled with the overzealous interpretation of EU procurement rules, is adding to the cost of contracts rather than producing much anticipated economies of scale – with bidders bearing the brunt of the costs.

Mr McCapra, from the Landscape Institute, told us: “SMEs offer lower overheads than larger practices; and they may also have local knowledge, which saves time and produces work that meets local needs better. Many SMEs are made up of people who’ve come out of larger practices, so there’s a great deal of expertise there.”

The RIBA made a similar point as did Ross Smith, of the North East Chamber of Commerce. He said: “Small and medium sized enterprises are being shut out of bidding for public sector contracts. Clients are increasingly aggregating contracts which make the size of the contracts too big for SMEs or demanding quite specific experience.” He cited two examples of a housing association which asked for specific experience in building bungalows, and an infrastructure maintenance contractor which was asked to describe its experience of working with Network Rail.

Mr Smith said: “The general response to this is that the opportunities for those regional firms come in the supply chain. But the effect of that is that we are seeing a ‘squeezed middle’, where a lot of the firms we represent see themselves as too small to effectively demonstrate the national reach which is needed to qualify for some of these contracts, and yet, are too big to fit within that supply chain. What that does is put a ceiling on ambitions for growth; and we think that will potentially reduce the level of competition that exists.”

However, we heard other evidence that frameworks were making significant savings to the public purse and that they also offered significant workloads to SMEs, through Tier One (or main) contractors. For example, the National Improvement and Efficiency Partnership (NIEP), which is an overarching body for local authorities in regional frameworks, said local authority frameworks in the NIEP had achieved £300m in savings on construction, consultancy, highways, and property and asset management.

Alan Coole of Scape said that framework contractors frequently place 85 per cent of the work with SMEs. He said, “There are many incentives for them to use local companies. This can be specified through the frameworks. Every local authority wants the same thing – local spend. Another advantage of frameworks is the transparency it brings to the procurement process – as every one of the unsuccessful bidders goes through everything with a fine tooth comb.”

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

Mr Coole said that there was still a role for certain projects to be tendered, adding: “But there is a whole body of learning now, which says that you can get more out of frameworks. So I think there is an inevitability that the bulk of projects will move towards frameworks.”

Andrew Smith, Chief Executive of Hampshire County Council and Chair of the National Improvement and Efficiency Partnership, said that up to 40 companies across England ended up as Tier One contractors. He also pointed out that the work that actually came under the auspices of a regional framework was not a significant amount. “So for a major framework, of say £5m plus, that may only be 25 to 30 per cent of total construction works in a geographical area. I think, if you look at the actual construction market, and you look at the volume of relatively small work, and bear in mind none of the frameworks come into place much below £0.5m, there is a huge swathe of construction related work that’s still available to local firms in an area.”

There is certainly a growing backlash across a number of institutions to the emergence of frameworks – particularly the regional frameworks, run by local authorities. There is also an argument developing that, by making these contracts inaccessible to smaller and medium sized firms, the public sector is missing out on better value for money that they can provide.

### Recommendation

- Certainly the idea of an emerging squeezed middle would seem a very real one. But at this present time, there appears to be little in the way of hard data to back up the claim that SMEs can provide better value for money and counter-act the savings put forward by those operating frameworks. We would welcome, however, more investigation into this whole area.

### Good practice 9: Saving through frameworks

Scape is a local, authority-controlled company set up 10 years ago to provide public bodies with a quick and efficient route to procure and deliver their construction needs. By the end of the year, it should be procuring £3bn worth of framework agreements. Alan Coole, Development Director at Scape, said it currently had 50 private sector partners.

Scape procures all framework arrangements through the OJEU process. Collaborative procurement provides substantial savings to the public sector. Mr Coole said that through frameworks, Scape had saved an estimated £70m; and 200 days of procurement time on every project.

Another benefit to framework procurement, said Mr Coole, was that firms down the supply chain were being paid within 30 days, which helped small businesses. The framework arrangements were also driving what clients wanted – including setting targets for Tier-One contractors to take on local apprentices and buy materials locally. Mr Coole said that a number of more standardised projects had been delivered 30 per cent cheaper than the usual costs.

“In summary, we are not advocating a race to the bottom. We are looking for value for money, but that’s not necessarily the lowest cost. We want to deliver on cost and quality and believe that’s best done through good quality framework arrangements.”

Other highlights include:

- 85 per cent of suppliers are SMEs;
- 77 per cent of expenditure is within 40 miles of the site;
- No overspend on any project; and
- No claims or legal costs.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### 3.4 Using BIM to increase efficiency and add value

A key plank in the Government Construction Strategy is, for all public sector construction contracts, to adopt Building Information Modelling by 2016, as a means of increasing efficiency.

One of the key advantages of the technology is that it throws up any clashes in the design and prevents construction errors. Using BIM also brings considerable benefit for the lifetime of a building; It forms a basis for data capture to monitor its performance-in-use, provides a feedback loop that supports continuous improvement of the asset, reducing costs in use and optimising maintenance interventions, and it feeds this data back to inform future designs of similar assets.

The first contract using BIM has already gone out to tender from the Ministry of Justice. Mark Bew, who is seconded to the Department of Business Innovation and Skills and who is chairing the Government's BIM implementation strategy, said that any investment made by companies to meet the level required by 2016 would deliver a significant payback.

Mr Bew emphasised that BIM was equally applicable to both larger and small organisations. "Our analysis of the supply chain shows us that everyone will see a benefit, if they take part and deliver clarity through using these technologies and processes. The key thing is that, if you have a plan, you will see a return."

#### Recommendations

- Our view is that, given so much additional efficiency can be achieved through BIM, the policy decision taken to adopt it by the Government is a highly important one. The evidence to date from the early adopted projects is that Level 2 BIM has the potential to save project time, by eliminating wasteful repetition through the supply chain, and therefore money. Likewise, it brings all the advantages of early contractor and specialist engagement and project team/supply team integration.
- The use of BIM technology will be a massive cultural shock in some areas of public procurement and the cultural shift that needs to be brought about for it to succeed, cannot be underestimated. We would urge the Government and the private sector to put the necessary resources into enabling this capability to be achieved (both in terms of Government becoming an expert client and the industry having the necessary skills to deliver BIM). We would like to see other departments, and not just Ministry of Justice, adopting BIM technology in some of their new contracts.

#### Good practice 10: Implementing Building Information Modelling

Mark Bew said that the supply chain had been given five years to mobilise, which he thought was a "reasonable notice to make a change."

This included getting training together and publishing methods of documentation as part of the British Standards portfolio. "The key thing we want is to deliver BIM Level 2 by 2016."

Mr Bew explained the significance of the different levels. We effectively adopted Level zero in the late 1980s using CAD. Level 1, is about creating information in 2D and 3D geometry, and sharing by email and internet. Ninety per cent of the industry sits in this level, he said.

"Level 2, the maturity the Government is aiming for by 2016, is about taking the geometry and attached data about the geometry – specification, planning and cost information - and bringing them into a tool called BIM."

"Level 2 has been selected very carefully because it preserves the existing commercial frameworks that exist in the market. The architectural information is still created and published by the architect, who retains the copyright and intellectual property. It won't demand a large commercial change."

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

“We don’t want to go to Level 3 in this strategy. This is because Level 3 involves full data sharing, and this would involve tearing up the commercial rule book.”

Mr Bew said that on the clients’ side, each department has a representative, who actively project manages what’s going on inside the department. While some departments had got to a high level of commitment and readiness, such as the Ministry of Justice; others were only just starting to explore. The MOJ approach will be used as the template. He said that the industry and clients were working together to develop documentation and standards for delivering that information.

He added that it was important to engage with regional firms and that he had asked the Construction Industry Council (CIC) to set up 11 regional hubs around the country, where smaller firms can learn more and iron out problems.

### **3.5 Measuring performance**

As the industry and clients look to implement the Construction Strategy, it will be essential to ensure whether the measures that are being put in place are working.

#### **3.5.1 Measuring building performance**

The performance of buildings in occupation is an area that needs urgent attention. We heard during the inquiry how buildings failed to perform in line with design predictions, particularly over energy consumption.

One of the problems is that these buildings are poorly commissioned. Roderick Bunn, Building Performance Assessor, BSRIA, presented a new protocol for the gradual handover of buildings, which is needed to ensure they are commissioned properly and to ensure that they actually deliver the energy performance they were designed to deliver.

Called “Soft Landings”, the protocol is based on open source software and is free to use. Mr Bunn said that repeated studies had found that buildings were using more energy, not less; they were becoming more complex and used far more energy than modelling had estimated. A recent study by the Carbon Trust found that energy consumption was three times more than Part L compliance calculations had predicted and, in some cases, there was a factor of five difference. The study also found that much zero carbon technology is risky to procure, fragile in use and delivers less than promised.

Mr Bunn said that a study he was involved with for the Technology Strategy Board is throwing up similar findings: buildings are increasingly more complex, but are made energy inefficient by poor commissioning of building management systems, which are being installed without occupiers understanding how they work.

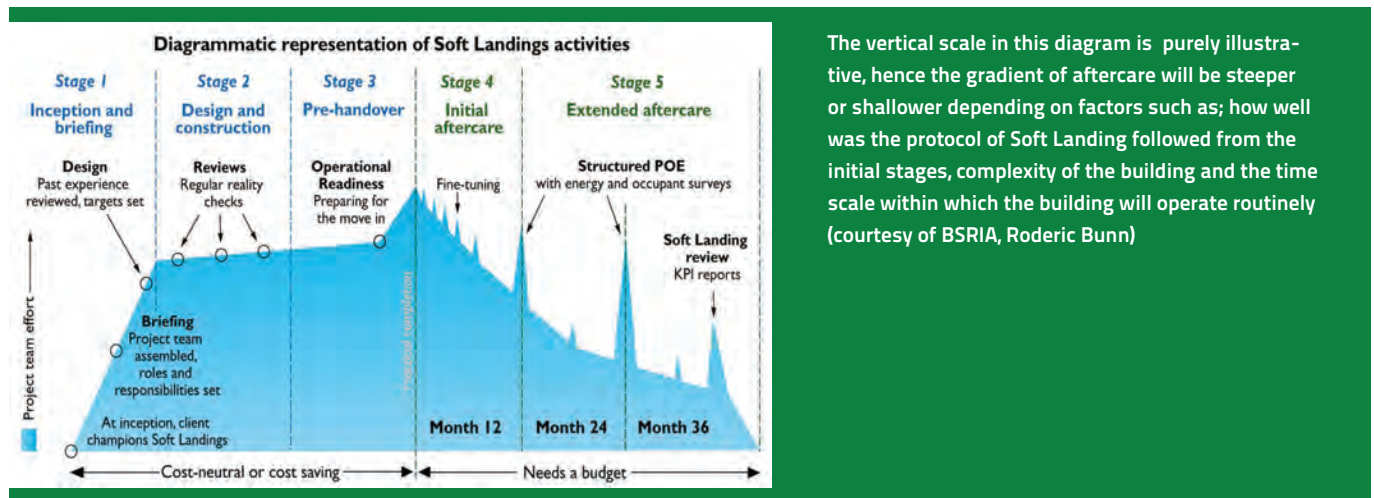
Often, buildings given high A or B rating under energy performance certificates (EPCs, which are awarded based on predicted energy use) received much lower DEC ratings, which are based on the actual energy use. Frequently, those with high EPCs and low DEC ratings also had excellent or very good BREEAM ratings, as BREEAM has a component of predicted energy consumption.

## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

Mr Bunn said that, as part of the TSB work, he had looked at nine schools, most of which showed this gap between predicted performance and actual performance. Mr Bunn said that post occupancy evaluation was still not a routine practice and feedback given to designers was rare. “We’re not learning the lessons to enable us to improve performance,” he said.

Soft Landings provides the documentation and a fully-fledged framework so that designers and contractors can still be involved after a handover, commissioning the building and ironing out teething issues. As part of its trial on improving procurement of public sector construction, the Cabinet Office is carrying out trials of Soft Landings across a number of new buildings.

Mr Bunn said: “Soft Landings is compatible with framework agreements. In fact, in the Carbon Trust study a couple of the buildings didn’t perform very well but the contractors were happy to help sort out the problems because they were on frameworks, even though they weren’t problems of their making. So there is real compatibility between the ethos of frameworks and soft landings because the contracting team doesn’t disband on the day after handover. In this study, the projects that weren’t on frameworks are still having commissioning problems.”



### Recommendations

- Post occupancy evaluation should be mandatory on all public sector projects above a minimum value threshold (e.g. £5m), with a focus on assessing performance against design expectations, where there is often a notable gap. This will help determine good and bad design practice and help inform design decisions going forward.
- Poor commissioning often leads to performance issues and one way of improving this is to have a phased handover of the building, using the Soft Landings protocol.



## Section 3. Educating the client: challenges, recommendations & examples of good practice - *Continued*

### 3.5.2 Measuring success of cost savings

#### Recommendation

- The Government's Chief Construction Adviser should be required to prepare an annual report on the performance of public sector clients (including government departments, agencies, non-departmental public bodies and local authorities) in construction procurement. This should highlight positive achievements in successful projects, as well as failure to deliver value. The report should be a public document, and should provide the basis for follow-up examinations of public sector clients which have consistently failed to deliver value for money projects or failed to improve their performance, when benchmarked against other comparable organisations.

### 3.6 Building component obsolescence

An area we are keen to flag up is one of mid-project obsolescence. By this we mean building components for which there is no replacement or components whose specification has been changed. Some of these can be mission critical: acoustic ceiling tiles change their texture irreversibly after five years and their size after 10 years. These are mid-stream in average building life cycles.

In the motor trade, if a car goes out of production, the manufacturer has to keep component parts for 10 years afterwards. This is not the case for building components and building owners are then left with problems.

Andrew Smith, Chief Executive of Hampshire County Council, told us that this is a huge issue. He said that with regard to component obsolescence, his organisation had been able to get round this issue by working with local suppliers, where possible, who then, for example, produce replacement doors and windows. However, Mr Smith offered a word of caution. "To make it viable often requires very deep collaboration to sign up to those arrangements. You're looking for three, five or seven year arrangements so that you keep investing in the product and create a supply chain and a market for it."

## Section 4. Appendix

### List of witnesses, institutions/organisations and oral evidence given to the Commission of Inquiry

#### We have received written evidence from the following organisations:

Association for Consultant Architects (ACA)  
BIM Strategy Group  
Building Research Establishment (BRE)  
Building Services Research and Information Association (BSRIA)  
Construction Industry Research & Innovation Association (CIRIA)  
Design Council Cabe  
Electrical Contractors Association (ECA)  
Faithful and Gould  
Landscape Institute  
Marstan BDB LLP  
North East Procurement Organisation: North East Chamber of Commerce  
Royal Institute of British Architects (RIBA)  
Royal Institution of Chartered Surveyors (RICS)  
Scape System Build Ltd  
Shepherd Group  
Task Group 3.6  
The Joint Contracts Tribunal (JCT)  
The National Improvement and Efficiency Partnership, Hampshire County Council  
The Quality Scheme for Ready Mixed Concrete  
Willmott Dixon

#### Oral evidence given

##### January 16th 2012

- Alan Muse and Colin Smith - Royal Institution of Chartered Surveyors: Performance Related Partnering (PRP)
- Alastair McCapra - Landscape Institute: Improving the public procurement of SME design, management and consultancy services.
- Peter Caplehorn - Royal Institute of British Architects: Reducing procurement bureaucracy

##### January 30th 2012

- Guy Hammersley - Building Research Establishment: Delivering great outcomes from a performance based approach to procurement
- Alan Coole - Scape Systems Build: Achieving Best Value
- Roderick Bunn - Building Services Research and Information Association: Soft Landings - the best route to high - performing buildings

##### February 6th 2012

- Ross Smith - North East Chamber Of Commerce: The Impact of Construction Procurement at Regional Level.
- David Mosey - Association Of Consultant Architects: Early contractor involvement under PPC 2000
- Richard David - Willmott Dixon: Procurement and Contract Choice: A Contributor to Project Failure
- Gary Edwards - Shepherd Group: Accepting the Education Construction Challenge

## Section 4. Appendix - *Continued*

### **February 20th 2012**

- Rab Bennetts - Design Council Cobe: Design Procurement
- Richard Saxon CBE - The Well Advised Client

### **March 12th 2012**

- Mark Bew - BIM Strategy Group: HMG BIM - Strategy Update
- Andrew Smith - The National Improvement and Efficiency Partnership, Hampshire County Council: National Improvement and Efficiency Partnership for the Built Environment.

*Edited reports of all five parliamentary evidence giving sessions, pertinent written evidence and a list of organisations which supplied written evidence, can be found on-line on [www.appgebe.org.uk](http://www.appgebe.org.uk).*

