



HOUSE OF LORDS

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Witnesses: Colin Cram, Andrew Wolstenholme and Alan Powderham

Memorandum by Colin Cram, Managing Director, Marcl Ltd (PP 31)

MAIN FINDINGS AND CONCLUSIONS

Analysis

1. Public sector procurement is a huge resource – £220bn pa, approximately one 7th of UK GDP, the potential benefit of which is well short of being realised.
2. Public sector procurement, despite improvement and some excellent examples of procurement organisations, is fragmented and expertise varies hugely. Its structures are a legacy of its past and a prisoner of the way the public sector is structured. Its structures are therefore inward and not outward looking. Overall, it is not fit for the purpose of delivering value for money for the tax-payer. Expecting it overall to deliver ‘higher level’ objectives is wishful thinking, though some individual organisations are able to do so.
3. There has been muddled thinking about public sector procurement objectives for many years. In particular there is little evidence to support assumptions that greater use of SMEs will lead to more innovation. The government’s target for use of SMEs has probably been exceeded for many years, but this has not necessarily brought the anticipated benefits.
4. Procurement policies and objectives have regularly been announced by various governments without ensuring that the pre-requisites for delivering them have existed. Monitoring of delivery has been absent and there is little evidence that initiatives to achieve the policies have been effective.
5. Procurement commissioners, e.g. public sector construction organisations, vary hugely in expertise and can be resistant to influence by good procurement personnel. Many commissioners like to stick to long established suppliers and specifications.
6. New and innovative suppliers are deterred by unnecessarily complex tendering procedures, anti-innovative specifications and can be discriminated against by not having previous business in the public sector that can be used as a reference.
7. An over-reliance on framework agreements by the public sector shuts out new and innovative suppliers for the lifetime of the agreements, usually about 4 years.
8. EU Procurement Directives are no longer a barrier to innovation.

Changes Required

9. An integrated public sector procurement model needs to be created along the lines proposed in ‘Towards Tesco’ (see main report below). This would enable delivery of public sector procurement objectives to be monitored and accountability for delivery to be introduced.
10. The NHS has a centre for innovation. This could be built on and extended to the rest of the public sector.

11. A little used EU procedure, a 'Dynamic Purchasing System' (DPS), could be used to create 'approved lists' of suppliers based, amongst other things, on their capability at innovation. This is a simple procedure for suppliers.
12. Mirroring the proposed integrated approach to public sector procurement, there needs to be a similar approach to the management and commissioning of functions such as construction, local passenger transport and reprographics.
13. Existing initiatives to support SMEs should be retained.

MAIN REPORT

Public Sector Procurement Spend

1. UK Public Sector Procurement amounts to some £220bn a year. This is one seventh of UK GDP and amounts to £3500 per adult and child. Approximately one third is spent by central government departments, one quarter by local government, one tenth by the NHS and the rest by education and other public sector bodies.

2. The range of UK public sector procurements is immense. The following examples give an indication of the diversity:

- Commodities, goods and services
- Major outsourcings
- Research and development
- Medical equipment
- Health and social care
- Roads
- Buildings
- Drugs
- Scientific equipment - a vast range
- Transport and means of transportation
- IT and major computer projects
- Major service contracts

3. There are some 2000 procurement organisations, most of them very small. Collaboration exists, but amounts to no more than 10% of public sector spend. It tends to be in identifiable groups, e.g. further education and central government, but increasingly there are examples of collaboration across the public sector. Central government procurement, in particular, is increasingly coordinated.

Achieving Innovation through Procurement

4. Procurement by the UK public sector represents an immense resource, the potential benefit of which is well short of being realised. Traditionally, procurement has been expected to produce value for money and to demonstrate probity. There has also been a policy of 25 years to increase business with SMEs. Many local authorities have a policy to support local suppliers.

5. More recent developments have been the introduction of policies to support sustainability, social development and innovation. The scale of public sector procurement is such that, for better or for worse, it can have a major impact on all these areas.

6. Thinking about implementation of policies for procurement has often been simplistic. Key to the delivery of procurement objectives are the operational teams (e.g. construction), who hold the budgets and commission the procurements. These teams, operating in a very devolved and fragmented environment, can be the main obstacles to the delivery of procurement policies and value for money.

7. Thinking on public sector procurement policy has been muddled for many years. Policies and objectives have been announced

- without any understanding of what would be required to deliver them,
- without any analysis of the existing situation,
- without any means of monitoring the changes as a result of introducing the policies and
- without any satisfactory assessment as to whether the objectives would have been achievable through the particular policies.

£millions have been spent on these policies with little evidence as to their impact.

8. Policy on use of public sector procurement to support SMEs is one example. The original policy to support SMEs was introduced in about 1985 on the basis that there was evidence from the USA that SMEs created more employment than established large players and were more innovative. However, there was no analysis of public sector purchase spend. There was an assumption that the proportion of public sector procurement spend with SMEs was small (well below 10% was implied) and this assumption has continued pretty well to the present day.

9. However, I commissioned a purchase spend analysis in 2006, when Director of the North West Centre of Excellence, and 31 local authorities took part. We were able to make an assessment of spend with SMEs. 65% of contracts went to SMEs and this amounted to 33% of procurement spend. Extrapolating and making certain assumptions, it appears that, overall, the proportion of public sector contracts let to SMEs is unlikely to be less than 30%, of which local government would account for about 15% of points. It seems likely that these percentages have remained reasonably stable for many years. This means that successive government policies and recommendations from reviews, such as Glover, have been based on questionable assumptions.

10. The conventional wisdom that greater use of SMEs will lead to more innovation proved open to question. There was some suggestion in discussions about the figures from the study that many (most?) SMEs were used because they did not innovate. Many had been used for many years and would have had long established specifications. An example is the procurement of 'tarmac' in Greater Manchester. There were well over 100 specifications to which people insisted on sticking. However, in practice, there are only about 6 different grades, so most would have been the same specification expressed in different ways and some would have gone back a very long time. It seems likely that due to product changes over the years that some of the product no longer met the specification. However, councils have continued to stick to their specifications and procurement personnel generally lack the authority to challenge them.

11. Is the UK public sector either capable or motivated to procure innovation? The answer is 'yes' and 'no'. Government policies have sometimes driven innovation, such as in the early days of outsourcing and the introduction of the Private Finance Initiative. Scientists may sometimes drive procurement innovation. The Olympic Games preparation is an example where innovation is of key importance. There are many local initiatives, but adoption often remains local.

12. Local passenger transport is an area where value for money and innovation depend on the capability of individual local authorities. A national initiative sponsored by the North West Centre of Excellence, demonstrated that joint working between local authorities and innovation should be able to save up to £200m a year and improvements to services should be possible. Some transport managers were up for the challenge. It became apparent that the capability of transport management and construction teams varied hugely between local authorities.

13. Overall, little of the innovation stems from procurement personnel. Most commissioners of procurement (see paragraph 10 above for an example) do not commission innovation and procurement personnel rarely have the influence or motivation to challenge this. However, my experience is that top class procurement professionals with specific commodity or service and market expertise can deliver up to 35% better value for money and effective policies for sustainability and other desirable outcomes that the average procurement professional or administrator can barely dream about.

14. Procurement capability has been improving generally for the past 10 years. But it has been uneven. Despite some procurement organisations recognised for their excellence:

- There is plenty of evidence that, overall, public sector procurement does not achieve value for money – the most basic of objectives. Expecting it to achieve 'higher level' objectives is wishful thinking.
- There is a lack of data on procurement spend. Whilst the situation is improving for much of central government, much of the rest of the public sector does not know its total procurement spend with any accuracy. An accurate picture of, say, the top 100 public sector suppliers could not be provided.
- Procurement remains very fragmented. Whilst the procurement of common categories is being pulled together for central government, this represents just 6% of public sector procurement spend and the emphasis is on saving money.
- Innovation for any type of procurement requires procurement officers with expert professional and category expertise. Such people are a scarce resource. Fragmentation of public sector procurement spend prevents the best being used on behalf of all.
- Fragmentation of the management of public sector procurement spend often prevents a coherent approach to and effective dialogue with the market. Capable public sector procurement personnel often do not have the clout to manage the market and drive through innovation. Industry has little incentive to be proactive and invest in innovation.
- Fragmentation and varied capability and expertise of operational teams, which commission procurements, make a coherent approach to procurement, the market and innovation doubly difficult.

- Fragmentation also means that adoption of best practices may be limited. (For example, how could one ensure widespread dissemination and adoption of lessons learned from preparations for the Olympics?).

15. An analysis of the state of public sector procurement is in 'Towards Tesco', written by me and published in March 2010. See link below to the document.

https://www.iod.com/MainWebSite/Resources/Document/policy_article_towards_tesco.pdf

It argues that the structure of public sector procurement is a legacy of its past and a prisoner of public sector structures. Its structures are inward rather than outward looking. Despite the improvements taking place, the findings and conclusions remain broadly relevant.

16. New and innovative suppliers find it difficult to enter the market.

- Specifications tend to be anti-innovative and are over-prescriptive.
- Tendering is often unnecessarily complex (more complex than required by the EU procurement directives). It is often process rather than business driven and companies with experience in tendering, particularly those which employ full time tendering teams, have a built-in advantage.
- Innovation implies change, which can imply risk, which procurement personnel may have neither the time nor capability to handle.
- New and innovative suppliers do not have a track record in the public sector, which disadvantages them against established suppliers.
- The public sector relies too much on framework agreements which shut out new and innovative suppliers for the length of the agreements, which is typically 4 years.

17. The EU Procurement Directives are no longer a barrier to innovation. However, their potential is not being realised (see below).

18. An increasing tendency to buy through 'catalogues' of framework agreements can also limit innovation. It is easier to buy through a 'catalogue' and easy to demonstrate savings. However, the weakness of this approach is demonstrated by reprographics (total public sector procurement spend about £2bn pa), where there is evidence that a more innovative managed print service can save up to 40% compared to a 'catalogue' approach.

What Should Be Done?

19. An integrated public sector procurement model needs to be created along the lines proposed in 'Towards Tesco' (illustrative diagram attached). This would enable delivery of public sector procurement objectives to be monitored and accountability for delivery to be introduced.

20. The NHS National Innovation Centre could be built on and extended to the rest of the public sector. Suppliers with innovative ideas could have them assessed and if considered suitable could be promoted in the public sector (see below for Dynamic Purchasing System) and, in exceptional cases, some financial support could be provided for product development.

21. Thirdly, a little used EU procedure, a 'Dynamic Purchasing System' (DPS), could be used to create 'approved lists of suppliers based, amongst other things, on their capability at innovation. The DPS enables new suppliers that meet the appropriate criteria to be added to the list at any time during the (normally) 4 year life of the DPS. Use of these suppliers could be monitored. Applying to be on the DPS is a simple process, ideal for this purpose and easy for SMEs and suppliers unfamiliar with public sector procedures.

22. Mirroring the proposed integrated approach to public sector procurement, there needs to be a similar approach to the management and commissioning of functions such as construction, local passenger transport and reprographics.

23. The existing initiatives to support SMEs should be retained. However, the approach set out in paragraphs 16-19 will have a much more fundamental impact.

10 January 2011

AN INTEGRATED PUBLIC SECTOR PROCUREMENT STRUCTURE?

	Central/ Major Departments/ Buying Solutions	Industry Specific	Regional P Hubs/ Medium Depts	Local/Med/ Small Departments
Major National Contracts/Suppliers	*	*		
Common Categories	*	*		
Relationship Management	*	*		
Market Management	*	*	*	
Industry Specific		*	*	
PPIs/Major Project Support	*	*	*	
Regional/Large Local Contracts/Suppliers			*	
Small Local Contracts			*	*
Discipline/Implementation/ Compliance			*	*

Members present

Lord Krebs (Chairman)
Lord Broers
Lord Crickhowell
Lord Cunningham of Felling
Baroness Hilton of Eggardon
Baroness Perry of Southwark
Lord Rees of Ludlow
The Earl of Selborne
Lord Wade of Chorlton
Lord Willis of Knaresborough

Examination of Witnesses

Witnesses: **Colin Cram**, [Managing Director, Marcl Ltd], **Andrew Wolstenholme**, [Director of Innovation and Strategic Capability, Balfour Beatty], and **Alan Powderham**, [Director of Transportation, Mott MacDonald].

Q105 The Chairman: Welcome to our three witnesses and thank you very much for taking time to come and give evidence to this inquiry into innovation in public procurement with a particular interest in the transport sector. In a moment I will invite the witnesses to introduce themselves, but before that I would like to also welcome the members of the public and inform them that the proceedings are being webcast and also draw your attention to the information note available that provides some background on the inquiry and lists Members' interests.

I'd like to kick off by inviting each of our three witnesses to introduce themselves for the record. If you could say who you are and where you come from but also if you have any short opening statement that you would like to make, please feel free to do so and then we will lead off with the questioning. So perhaps if I could start with Mr Wolstenholme.

Andrew Wolstenholme: Thank you, my Lord Chairman, and good morning to the Lords and Ladies. I understand you have had a late night, so you'll want this to be this interesting and

entertaining. Apologies on two counts: I have some written evidence that I understand should have been submitted earlier, and I apologise for not doing so, and also for the slight croakiness of my voice.

I would like to take this opportunity to tell you a bit about my background. I spent five years in the Army as a graduate and as a civil engineering post-graduate. I joined Arup, an international firm of consultants, for 10 years. I then became a client for 12 years with BAA and recently, a year and a half ago, joined the infrastructure group Balfour Beatty. I, therefore, feel that I am able to look through a fascinating lens from consultant to client and now as a member of the supply chain.

Just before I joined Balfour Beatty I was asked to chair a report for the industry to look at the last 10 years and to understand what had happened since Sir John Egan wrote his report *Rethinking Construction*, why progress hadn't happened at the speed that was anticipated and what would be the big themes that we look for in the future. I called the report *Never Waste a Good Crisis*. Having had 10 years' opportunity to change, with a huge agenda of decarbonising on our doorstep and with an anticipated reduction of both private and public sector spend, this is the moment to innovate and this is the moment for our industry to change and move forward.

In my evidence, I have tried to answer the questions that arrived about a week ago. I have also tried to tie together a lot of the thinking that I believe needs to be joined up now from various different Government bodies and Government agents, including what Paul Morrell, as Chief Construction Adviser, is doing in the IGT, the Innovation and Growth Team, including the recent National Infrastructure Plan and the Infrastructure Cost Review that has recently been completed by Treasury and including my own work as chair of the '*Never Waste a Crisis*' report.

Lots of the clues that I think still affect the ability for innovation to move forward faster than it is are contained within these reports. If we can stand for a moment to look at how they all interconnect with each other then I really do believe that, over the next 10 years and shorter horizons, we have the opportunity and ability to stimulate this wonderful construction industry and look at construction not as an act for four or five years in delivering major infrastructure programmes, but as a vital part of delivering built assets with a life cycle of 50, 60 or even 100 years and that this lifting of our horizons is going to stimulate innovation for the future.

The Chairman: Thank you very much. Sorry, the written evidence to which you referred, have we seen that yet?

Andrew Wolstenholme: I am afraid not.

The Chairman: But we will have a chance to look at that?

Andrew Wolstenholme: You will, yes.

Q106 The Chairman: Colin Cram?

Colin Cram: My name is Colin Cram. I have spent about 40 years in the public sector, the final 30 years of which were creating new and quite innovative procurement organisations and models. I brought that experience together in a report that was published by the Institute of Directors in March last year called *Towards Tesco*. It proposed how public sector procurement should be restructured in order to start delivering value for money, to start delivering sustainability and to start delivering innovation and various other Government policies. Originally, I have to say, I was a marine climatologist and my main interest in life still is climatology. So I have kept up to date with developments.

Some general comments about public sector procurement: I think, despite improvements, particularly in central Government, procurement in the public sector is still too fragmented.

I have worked right across the public sector, unusually, and capability is too variable to deliver much innovation through procurement. Overall, I would say it is still not delivering value for money and it cannot, by and large, engage because of its fragmentation, effectively with industry and it tends to be procedure-driven and in response to specifications from operational units, many of which are very conservative. There are some good exceptions but much of the £200 billion public sector procurement spend, I would suggest, is a wasted opportunity.

In my last position, as Director of the Northwest Centre of Excellence, I initiated a project, *Local Passenger Transport*. Total expenditure on local passenger transport is about £5 billion per year—we managed to establish that—but there are about 1,000 to 2,000 different organisations involved. The purpose of the project was to start to try to get this sorted, to improve services, to save money and to have more sustainable transport. But, unfortunately, funding ceased in 2008 when the Centres of Excellence were replaced by the Regional Improvement and Efficiency Partnerships. So there is a big wasted opportunity there.

Q107 The Chairman: Thank you very much. Sorry, could you just clarify this £5 billion per year and the 1,000 to 2,000 organisations. That was for the region that you were studying, was it?

Colin Cram: No, that's national.

The Chairman: Is that the UK as a whole?

Colin Cram: There's around about £2,000 million per year spent by local government in supporting passenger transport, whether it's buses, taxis and so on. Other related spend builds this up to £5 billion, perhaps £6 billion in total.

Q108 The Chairman: Mr Powderham?

Alan Powderham: Good morning. Thank you, my Lord Chairman. It is a real pleasure to be here. I am Alan Powderham. I am a Director of Transportation in Mott MacDonald and also a visiting professor at Imperial College. I spent over 40 years in the private sector primarily; mostly with consultants but I worked with contractors, too.

I guess you could say that two of my driving passions, apart from civil engineering itself, would be to have that robust connection between theory and practice and relate design to construction. More recently, I have focused on safety as a driver for innovation and I've specialised in underground construction, although I did start in other transport infrastructure with bridges.

I appreciate this opportunity to contribute. It's a fundamentally important and exciting subject. I hope to provide evidence through my direct experience of innovation and, moreover, it's pretty obvious that this is a pretty well-ploughed furrow but I do believe, surprisingly, that there is some low-hanging fruit that I'd like to pick for consideration. Thank you.

Q109 The Chairman: Thanks very much indeed. Perhaps I could just kick off with a general question. You have hinted at some possible answers to this question but I would very much appreciate if you could expand a little bit, all three of you; I don't mind in which order. My question is whether the Government is currently doing enough to foster innovation through procurement to the public sector in general, and particularly with major infrastructure projects, and if you can give us some concrete examples either of successes or failures, because you don't want to just have the theory of it. You want to know exactly where you can point to some examples where innovation has been stimulated through public procurement and infrastructure or cases where it has failed. Mr Wolstenholme, perhaps since you hinted at this in your starting comments, you could expand a little bit.

Andrew Wolstenholme: When I was asked to be the chair of this industry report, I was advised to look carefully at the evidence over the last 10 years. Interestingly, we are very good at writing reports in this country and many of the themes are common, such as innovation, work-sharing, trust and partnering.

The surprise I came up with in looking at this evidence is that those are the themes picked up by Simon and Finniston in the 1950s and 1960s. So this agenda is 50 or even 60 years old for us.

Looking at the evidence since Egan—and there were 10 years of key performance indicators in the industry; there were 10 valuable industry reports and there were 1,000 questionnaires that went out—the themes of partnering and strong leadership, of product development, of quality as laid down by Egan, were all as relevant today as they were 10 years ago. But the KPIs were indicating while costs and programme and quality were being delivered by demonstration projects, in other words advocates who wanted to change their business model, the industry was simply growing at the rate of economic growth.

Therefore, for the past 10 years, there has been no need for this industry to change as there was, for instance, in the '80s and '90s for automotive and manufacturing. Therefore, the thesis that you could take lessons that were well-judged for manufacturing and the car industry, applied to UK construction, fell slightly fallow because there was no driver for change. Yet you could look at those demonstrations of projects and examples where innovation had occurred and there was a correlation between the business model and, in some cases, the regulated model that forced people to change.

Some examples, for instance: in the regulated sector, water and utility industries, supply chains had to prove after five years that they were delivering greater value when they started their framework and the result if you didn't was that someone replaced you. I think my own organisation, BAA—as, I hope, a reasonably informed client—set the environment

where suppliers found it safe to be able to transfer their intellectual property and to innovate. As a client, we were very receptive to good ideas and we shared the risk in taking and importing it.

There are some very good examples in the public sector. I have to say that the Highways Agency in developing its frameworks has a lot of experience in working at the scale of the M25 with Connect Plus, on A3 Minehead projects with Alan's organisation Mott MacDonald, which is a highly successful partnering project with the Highways Agency. I could identify PFI and PPP as an example of a framework where it asks suppliers to have skin in the game beyond the act of construction. By doing that and by asking them, for instance, to pay the electric bill in year 10 and year 20, it forces supply chains to innovate in terms of how you manage that difficult balance between capital and life cycle investments. More than just taking capital off balance sheets or transferring risk to those people that are better placed to manage it, it has created in this industry, I believe, a sense of innovation that didn't appear before.

Building Schools for the Future is another example. Disappointingly, it collected a whole heap of overheads that that programme didn't deserve or shouldn't have done. But the innovations coming, for instance, from Balfour Beatty in some of the school schemes—recently we have been appointed for Hertfordshire—where you take a school completely offsite and manufacture it, you can take 25% off the cost by doing that and deliver 16-week savings. And when you get the delivery through a procurement model, stimulating innovation from the supply chain, I do believe there are some very exciting combinations where we can have a win-win as we look forward across the industry. On other questions I will just demonstrate and give you further examples where this is possible and indeed happens.

Q110 The Chairman: Thank you. Mr Cram, do you have anything to add?

Colin Cram: Yes. I think I would like to change the question in some ways: is the Government doing the right thing to foster innovation? I would suggest that initiatives to foster innovation have been, perhaps, rather wishful thinking and haven't achieved their objectives. In the paper I have provided to the Committee I mentioned small firms. It was assumed that if the public sector used more small firms then there would be much more innovation. But the evidence I've come across suggests that the small firms that are used tend to be those used precisely because they don't offer innovation and they offer the same old solutions.

I think that exhorting departments or requiring departments to produce procurement innovation plans has not been particularly successful. If one looks at most of those innovation procurement plans, they're almost motherhood and apple pie. The departments are not doing anything different to what they would have done anyway. I think the real problem, as I've concluded and as I've experienced, is that the infrastructure simply isn't there to deliver innovation in most instances. So the vehicle isn't there and unless we get the vehicle right, we're not going to get the innovation. It's why I've argued for some years that we need to restructure public sector procurement and not just central Government procurement.

I think that there are examples of innovation. They've not been driven so much by procurement, but they've been driven by needs. Private Finance Initiative is a pretty good example whereby private sector companies, if you like, build and run a hospital for 20 years, and they have the incentive then to start to introduce sustainable practices in order to keep the costs down, which the public sector didn't have before that. It tended to build to lowest price and the costs would sort themselves out later. So I think the Private Finance Initiative has driven innovation.

Outsourcing has driven innovation and there have certainly been some pretty good innovations from some parts of the public sector. If we look at schools, then Hampshire claims to be now able to build 10 schools for the price of nine. I think Building Schools for the Future is an example of where there was innovation but it was also an example where many local authorities did not have the capability to implement it. And if you look at Building Schools for the Future, perhaps the real flaw was the lack of capability in many local authorities and, even though it was enhanced by throwing in consultants, it perhaps failed to recognise the base line. It was a great policy but there wasn't the mechanism to deliver it effectively right across the board.

Q111 Lord Crickhowell: Thank you very much. I would like to ask you firstly, Mr Cram—and you will probably think I am being unfair—when I came in and we were looking at the possible questions I observed that, having read your interesting paper, you clearly addressed some of the shortcomings and you produce your Tesco Solution, which is clearly very helpful in achieving cost-savings in efficiency and so on. But I said, “Does it answer the question that this Committee is inquiring about whether all these changes in the sort of Tesco-like groups, which you describe, encourage innovation, which is what we are all about?”

Then Andrew Wolstenholme arrived with his paper and his comments, and I thought, “Gosh, we have a sector here that is talking about innovation and what generates it”. Risk was one factor that emerged in one of the papers I think I've skimmed over quickly that was submitted. But going back to Mr Cram: the question that I think I am asking you is the Tesco-like solutions that you advocate, clearly they are desirable from all sorts of other points of view in terms of cost and everything. How far, though, are they really the source and inspiration of the innovation that this Committee is looking for?

Colin Cram: I don't think there's ever quite a right answer, so you end up with the best fit. But in my experience, when I've been able to bring procurement together—and I was able to do that in the Benefits Agency to create a very powerful contracting team that brought things together—it meant I was able to employ the very best people, of which there are very few, and those people were able to deliver results, often through innovation, that average procurement people couldn't dream about.

I know it's not transport but one obvious example of success we had was on office furniture, of which there was an expenditure of about £20 million per year then by the Benefits Agency. The person I employed worked up and down the supply chain, so he was able to work with suppliers. He had the reputation. He took out hardwoods, which no one had thought of then, reduced the use of materials, reduced the use of transport, improved the design, so it was a very popular product, and reduced costs by about 35%. The National Audit Office independently observed that that was the case.

So I think that illustrates what you can do. If you have a fragmented operation, by and large most of the operations, firstly, don't have the clout to be able to engage in industry, to even talk about innovation and, let's face it, a lot of our supply chains extend to the Far East now in one way or another. Secondly, there are very few people with the expertise. So with the combination of not having the clout and not having the expertise and often not having the motivation, you're not going to get much innovation with the present system, I'm afraid. The mechanism just doesn't exist.

Q112 Lord Crickhowell: Can I ask just one supplementary question based on a different experience as the chairman of—

Colin Cram: I thought it was a very fair question, by the way.

Lord Crickhowell: —an IT services company that tendered for a very important central Government contract for IT, organised by the Cabinet Office. Certainly I would endorse fully the need for expertise because it takes two to tango and one of the difficulties we found was a total inability or lack of willingness in the Government team to engage in the dual operation that produces a good product. But it does cite one problem: that you talk about IT and you want to bring it together. That is precisely what the contract was about.

It was led by the Treasury but, of course, one of the difficulties is each other department being brought into it had their own perfectly legitimate, separate requirements. One lesson about IT is that you want to have something that is simple, straightforward, without too many bells and so on added onto it. And so there is a complication here that if you bring together seemingly like organisations that do have separate requirements, you may be up against complexities, particularly in the IT field, that are destructive rather than helpful.

Colin Cram: My experience is that a lot of these differences in requirements are down to people and not down to genuine differences in requirements.

Q113 The Chairman: Thank you. I would like to continue with the question, because Alan Powderham hasn't had the chance yet to respond to my initial question about whether the Government is doing enough to foster innovation and giving us some examples of successes or failures in public procurement to foster innovation.

Alan Powderham: Enough? Well, in some ways you might say it is doing too much in the sense that there's a lot of information. But what is the reality the word is "stimulate"? I haven't found it generally very seductive, given the fact that in my opening statement I said engineering was very exciting. So engineers should be serial innovators. It's an incredibly creative profession that I have found enormous fulfilment and satisfaction in pursuing, and I've enjoyed being involved with a wide range of major infrastructure projects where I've

been able to initiate and lead innovation. However, at times it's felt that one is more innovating despite all the help. It's almost a confirmation of the ironic dictum of Will Rogers that things will improve despite our efforts to make them better. So it's a qualified "yes".

We're talking about innovation and we're talking about procurement. I think both words need to be looked at in a very holistic and cradle-to-grave way and it needs to start at the beginning. The later you leave it, the less the opportunity is and, frankly, I've only been overtly asked, as part of the intrinsic process of starting a project, to provide innovation twice, at least by two companies; one in the private sector, which would be BAA, and the other one in the public sector but not in the UK. That would be the Massachusetts Highway Authority.

I can give plenty of examples in the UK of a qualified "yes". They would include, in my direct personal experience: Channel Tunnel, Mansion House Protection, Limehouse Link and so on. I'd also like to draw the attention of the Committee to a report called *Innovation at the Cutting Edge*. It was produced by CIRIA, for the DETR, and it provides the experience of three major infrastructure projects and two of them were in the public sector. There were quite a lot of aspects that worked very successfully. There was an overt desire to deliver innovation. But I think sustaining it is one of the big questions.

Q114 The Chairman: Sorry, that report highlighted—was it three projects?

Alan Powderham: Yes.

The Chairman: So if we look at that in the round, as a percentage of projects that have been commissioned, is that 3%, 0.3%, 30% or what?

Alan Powderham: We need to get the metrics on that. I would say the percentage in terms of overt stimulation of innovation right through procurement is relatively low, not by intent but by the result. I'm talking, obviously, from my direct experience. I'm working in an area of

civil engineering, which is incredibly creative but the industry is risk-averse. We don't generally have the opportunity to produce prototypes. We have a duty of care to the public, so we need to be mindful of safety. So to innovate in that environment is fascinatingly challenging but also the usual suspects—there's a whole range of constraints that I'm sure we're all familiar with—operate. So to overcome those issues is understandably not easy, but there are many strong examples of doing it and I believe there are some major opportunities. There always have been and they are certainly present now.

Q115 The Chairman: Thank you. Before I turn to Lord Cunningham, I would just like to ask Mr Cram a very brief, specific question. In your report called *Towards Tesco* you refer to the Office of Government Commerce as having shown first-class leadership in the drive for greater collaboration and higher standards of public sector procurement and, as you all know, the Coalition announced the merger of the Office of Government Commerce into a new group called the Efficiency and Reform Group. In your opinion, is that a positive step? If the OGC was a success, is it a good thing to have merged into something else and has any tangible improvement emerged as a result of the merger?

Colin Cram: Yes and no, I think, is the answer. The Office of Government Commerce did show first-class leadership in encouraging collaboration. Collaboration, though, tends to be expensive and it delivers limited results. But nevertheless it was a big step forward on what had been happening previously. I think that what is happening in central Government now through the Efficiency and Reform Group—and I stress, *in central Government*—in tackling common categories in a “deep-dive way”, as they call it, is a very constructive way forward. But if you look at the total spend they're attacking at the moment, it's about £13 billion and there's £200 billion out there. So I think, first of all, perhaps one unfortunate feature is that the Efficiency and Reform Group is looking at central Government and not at public sector

purchase spend as a whole and there's a huge commonality right across the public sector, not just central Government.

I guess they can at least control central Government and I think that attacking those categories at least gives an opportunity to enforce innovation and to enforce sustainability that they haven't been able to do before. So, yes, the Office of Government Commerce showed some good leadership. I was perhaps throwing a bouquet at them, because I've done some work with them. But I think we have to move forward to an integrated approach to procurement and not the disintegrated approach we've had up to now.

Q116 Lord Rees of Ludlow: I was interested in Mr Wolstenholme's comment that a long-term PFI contract like the hospital gave a slightly different incentive from just a construction one, because you are concerned with running costs and so on. I wonder if you would like to expand a bit on the extent to which the type of contract affects the incentives.

Andrew Wolstenholme: Yes, thank you. I think if you boil the pot down as a client, there are probably two or three questions you have to ask. The client role is very difficult, and I can say that because I have been one and I made only a reasonable job of it. You have to be able to assemble a brief and a business case. You have to then be able to procure different risk types through a myriad of industry structures and supply chains. You have to create a model where it is worth people's while to share their intellectual property. I've seen examples—indeed, I've worked with Alan on Terminal 5—where I think we've created an environment where to share those good ideas was to incentivise and to recognise and to reward.

I've also worked on examples where you tend to look at cost simply as the measure of output as opposed to value and in the public sector this is value to the taxpayer. So how do you stimulate supply chains to come up with their best ideas, to give value to the taxpayer

over a period of time as opposed to on the day that you hand the building over, which in a traditional low-cost model is the day that people walk away with their profits and their reputation either intact or not intact? Demonstrably for me, many of the innovations come around people and organisation, as well as process and designing and inventing things. And when you create an environment where people can openly collaborate and integrate together, then you create the best environment and the best possible opportunity for a long-term solution.

Expecting a supply chain in a relatively short period of time to deliver innovations for one project at a time, when it is being measured reputationally on the cost he's developing, is unlikely to provide sustained innovation in the future. Developing over a framework or to give him some skin in the game such that he can't walk away with his profits on the day of handover but needs to live with the output of his work for a period of time is by far the best model that we can come up with to stimulate, as I say, the subject of this debate, which is around innovation.

Q117 Lord Willis of Knaresborough: Very briefly, Mr Cram. The tenor of both your paper and your comments this morning indicates that it is need that stimulates innovation. We have an economic downturn. The Government is taking literally billions out of the public sector procurement budget. Won't that, by definition, therefore, fulfil your objective of creating need and, therefore, innovation?

Colin Cram: No.

Q118 Lord Willis of Knaresborough: Why not?

Colin Cram: I think all that happens is much of the public sector will just reduce the volume of purchases. We're seeing that in local government. I'm afraid many local authorities seem

to be into slash and burn rather than doing things differently, rather than doing things better. Some are, but generally one gets the impression it's slash and burn.

Q119 Lord Willis of Knaresborough: So this could be a real challenge, couldn't it? This could be a real opportunity for innovation to come to the fore.

Colin Cram: It's a fantastic opportunity. But the mechanism, the structure and the organisation simply isn't there and you're not going to get major change—and we're talking about major change here. Introducing real 'innovation procurement', as the academics would call it, for the first time in the public sector is a step change and you don't get a step change by tinkering around with things, which is the tenor of my argument; that we need to restructure public sector procurement and often restructure the organisations that commission the public sector procurement. We talked about construction a few minutes ago and there are loads of construction organisations in the public sector, some of which are not very capable organisations at all. So if you want get big results you've got to make some big changes, and that is perhaps one of my key messages.

Q120 Lord Cunningham of Felling: It seems, whether we are in good economic times or bad, that public procurement policy is not fit for purpose, from what you are all saying. Can you tell us, each of you in turn, what you think the three biggest obstacles or problems are with the current public procurement policy in respect of making it work better, in terms of not only value for money but driving innovative solutions to policy problems?

Colin Cram: I'll perhaps kick off. I think, first of all, as I've already indicated, it is the way public sector procurement is structured or unstructured. I think that is an absolutely major obstacle and that means, therefore, that the greatest expertise tends to be available only to the organisation in which it sits - and there are thousands of organisations - and not available

to the public sector as a whole. I think that is one of the major obstacles. I would probably see it as the major obstacle.

I think that another obstacle I've already indicated are the structures that sit behind procurement, because procurement often is reactive. It reacts to demand; it reacts to the demands of those who hold the budgets, the commissioners, and, again, we have a very fragmented approach. So we have a very fragmented procurement sitting with a very fragmented group of commissioners; again, very varying expertise. I would see those as the two major problems that need to be addressed.

Alan Powderham: Three?

Lord Cunningham of Felling: You can give us five if you wish; I just thought three for the sake of—

The Chairman: You are allowed to have the same ones as Mr Cram.

Alan Powderham: I think the key is motivation and the time to do it and the art would be achieving that by delivering value. As I have indicated—and in fact I think it is in our DNA, as I said—we like to be creative. It's our desire, but we're often frustrated. So I wanted to explain the exciting differences I've encountered with different procurement methods and particularly in the United States, but I was rather expecting that might come under question four.

The basis is that we need to change our behaviour. It would be wonderful if we could have a step change but I see that it is going to be incremental. And, frankly, most of the innovation that I've been fortunate enough to be involved with has been driven by crisis. So that's a very uncomfortable way of innovating. Perhaps in answer to question five we could consider the opportunities of the crisis, which has just been referred to economically but I am there relating also to the climate change aspect. So we have to change the way we do projects. I have a suggestion there. Would you like me to elaborate at this stage or later?

Q121 The Chairman: If you could just very succinctly because we have to keep moving on. I think the main obstacle you have described is motivation and time. Is that right? That is what you think is the main obstacle?

Alan Powderham: For the practitioners. I think innovation needs to be looked at in a much more holistic and broader way. It's often seen too much as the generation and creation of new ideas that enhance value, but it has three major parts and that's just the first one. The next is the development and then the implementation, and the implementation needs to take us right through to decommissioning. So it's the whole life cycle of the project. My colleagues here have been mentioning that. And procurement needs to be seen in that way, too. It needs to be integrated; so we need to get connectivity there.

Andrew Wolstenholme: Let me try and outline three. I think the first one is probably the workload and visibility of what is coming on the horizon. We are a very large and people-intensive industry that cannot turn too quickly on a sixpence, as it were. Therefore, I think the sense of having a national infrastructure plan is good for a number of reasons. Firstly, I think it gives a sense of priority as to where one should spend a limited resource of capital. Secondly, it gives the UK industry some sense as to where it should invest next in their own valuable resources. New nuclear is coming, for instance, we know it is coming—we hope it's coming—for which we all need to make investments several years in advance to gain, once again, the resources and expertise that delivers that. So the first one is workflow and we'd rather have less work but at a more stable pace than we would a very lumpy, bumpy ride over two or three years.

The second one, I think, is the sense still that value is derived from a low-cost solution as opposed to taxpayers being able to support a long-term value proposition that at the end of the day will save money and make profits along the way. The procurement models that deal

with this best and bring in the expertise for supply chains and create those environments for change will enjoy the most innovations. And this simply has to be a message that is demonstrably proven to be the case.

The third one, I said, was the expertise around this. When at BAA we were able to take on board a number of very interesting and very experienced individuals. I look across the public sector and I equally see very experienced and professional individuals but my sense, I guess, is that there are probably not enough. Procuring capital works, procuring a portfolio of Ministry of Defence, procuring IT projects: these are very high-end technical projects that require a very high degree of professionalism in defining the needs and being able to manage change as those needs change over short horizons. I guess the constraint is there are not enough good, professional resources. There needs to be a strong client or a procurement team to be guardian of these complex, high-risk projects that all too often can either elongate in terms of programme or overrun in terms of cost.

Q122 Lord Cunningham of Felling: For the benefit of the Committee, can any of you identify any one department or non-department or executive agency in this country that you could hold as an example of successful procurement policy?

Alan Powderham: By intent, but not delivery. As I said, there are a lot of good intentions but the challenges is where it tends to fall down. There are some excellent examples in here on Highways Agency and London Underground pursuing and delivering innovation but, as Andrew and Colin said, it is very much about people as well: communication and collaboration. I have had the excitement of working in an environment that stimulated innovation, I mentioned with Andrew and BAA. But to sustain that is not very easy if you don't have the continuity of purpose. It's been said quite frequently that large corporations have no memory.

Colin Cram: I think one obvious example is the London Olympics where there's a real drive for innovation and that is because there is the purpose and, therefore—

The Chairman: The ODA, the Olympic Delivery Authority?

Colin Cram: Yes. But, nevertheless, there is a political drive for innovation there and they've resourced it properly. They've resourced procurement properly. They have brought in advisors on sustainability and so on. So they are really focusing on that. My concern is that all the lessons that will come out of that will just disappear because there are just so many public sector organisations that will be unable to apply those lessons. I think, therefore, we need to try to ensure that those lessons—

The Chairman: You mean they cannot apply them or they will not apply them?

Colin Cram: Mostly can't, I would suggest, but also very often lack the real interest or understanding as to how to apply them. It's a very prestigious project and, therefore, companies are going to want to engage with it and they're going to want to talk innovation and sustainability and so on. So my concern is that we find ways of not losing all those lessons and try to ensure that some of those lessons are at least applied more generally. The Environment Agency is perhaps quite good on sustainability. As an example of an organisation that really is developing well, about nine years ago I created a joint procurement organisation for several of the research councils. That's been built on now and is beginning to cover quite a lot of their institutions. And when that is really completed, and expanded to all the institutions, and perhaps to other bodies, we'll have a very good vehicle for driving and supporting innovation.

Andrew Wolstenholme: We shouldn't get too depressed here because I could hold up examples of very, very good public sector procurement from probably almost every department. I think the difficulty here, and we shouldn't forget, is that innovation sometimes is simply sharing and transferring good learning and practice from one department to the

other. As a public sector client that represents anything between £40 billion in one year and maybe £60 billion of capital works the next year, this is a huge undertaking and, therefore, the conditions are needed to be able to share that knowledge well. The Highways Agency has made huge progressive steps by collaboratively working with their supply chains in developing different, innovative procurement models. The National Health Service has delivered procurement models that over time, cyclically delivering different types of value against different constraints; as with the Ministry of Defence and many other departments.

One thing that I asked in my report was about observing the duration for which the Minister with a construction portfolio has stayed in office. The duration when Nick Raynsford was in office was a period of, I think, either three or four years where he really began to understand the sense of prize that could be won from even small savings across that huge capital budget. With the leadership that Nick was able to give, with Sir John Egan having written *Rethinking Construction* and the Government of the time really understanding that the reward and the prize of a 10% or 15% or even 20% saving in that sector, the alignment began to appear.

The last Labour Construction Minister was excited by being on the chart until I said, “This is a chart to illustrate how short a tenure these Ministers have”. And I’m delighted that the Chief Construction Adviser seems to be representing the glue between the public sector departments. I would say that one of the constraints is the ability for Paul Morrell to be able to act seamlessly across the departments, to steal the good ideas with pride and to be able to pick off the really great public sector examples and to make sure that that is leveraged across others. And one, if I might cite—

The Chairman: Sorry, could you just keep it short because—

Andrew Wolstenholme: Yes. Innovation, very quickly, through something called BIM, which means building information modelling, that is doing what the car and the aeronautical

industry did 20 and 30 years ago, which is to digitally model our infrastructure on computer 'virtually' before you come out into the field. And I think this is an outstanding initiative, which the public sector should be fully behind and should demand of the private sector the innovations that go with that. So there's one example, I think.

Q123 Lord Broers: This leads me into my question, which is somewhat of a follow-on of what Lord Rees opened up: timescales. Are the timescales long enough and do you really have the models that are capable of lifetime costings and lifetime benefit analyses? Clearly, superhighways and high-speed rail systems lose money for a long time, as it were, before they make a profit. Or is that long-term thinking so complicated that it's like the weather and you can't do it at all?

And then my second question is: what about foreign ownership? Does that make it more difficult to carry out these plans if we sell our airports and our railways and everything to somebody else whose headquarters is overseas?

Andrew Wolstenholme: I presume that was, in part, directed to me because, of course, in handing Terminal 5 over there was a change of ownership during that tenure. I have to say I received great support by the new owners whose investment in that particular infrastructure was over a long-term period. So I don't necessarily see foreign ownership being an inhibitor here. Provided the free flow of capital and the identification of assets that bring value to taxpayers or customers is the bedrock of the investment proposal, then that should give a return to shareholders and customers alike.

I do think the period over which we develop innovations in this industry is a concern and I think that's why, within Balfour Beatty, I am looking after innovation and knowledge transfer. And I think the free flow of knowledge transfer halfway through cycle of innovation to the

next project is absolutely vital so that we don't get these five-year waiting games between the output of one project becoming the input of another.

So as, for instance, we look at High Speed 2, the planning constraints and the lessons learned through planning, the political system that supports it, all of these are onion skins that wrap around the complexity of our major transport systems here. So the free flow of the data between these projects and knowledge must help to accelerate the cycle through which these innovations are derived on one project and passed on to another.

We do not typically in this industry wake up wanting to innovate or share knowledge, which is why passionately I'm a people person and, equally, this breeds industry leaders that go beyond their technical skills. These are complex change programmes. These are cultural programmes. Terminal 5 was about people and once you've created people and the environment then you can create the sort of state where people can innovate and transfer learning. So bring bigger people into the industry.

And we'll get on to my other hobby horse around education and training in a minute, but this also is a prerequisite to creating the sort of vibrant industry where people not only get their technical qualification but stay in the industry and aren't, in a sense, led to other—

The Chairman: Could we just keep the answers to the questions succinct and to the point? Mr Cram and Mr Powderham, do you have any direct answers to the point that Lord Broers raised?

Colin Cram: If you're asking for a direct answer on major infrastructure projects, the answer is no. I would just comment that on slightly smaller projects that local government or the NHS are responsible for, then I think to some extent there is some short-termism because of the way they're funded. But the very best projects do look longer term and if we take some work being done, say, by Manchester City Council, then, when it comes to building schools, the construction team have been trying to educate the contractors to think

long term and to recognise they're not building schools, they're building education. And that starts to create a very different mind-set and perhaps a much more innovative approach.

Q124 The Chairman: What about on the foreign ownership, do you have any particular comments?

Colin Cram: I haven't any views on that. I don't see why that should make a difference.

Alan Powderham: Yes, I do believe we need more time, as already said, and there are procurement processes that will address that, which I'm going to enlarge upon if I get the chance in question four. It's the QBS system—qualifications-based selection—that I encountered in the United States. I've been asked to talk on innovation around the world. They seem to have the same challenges. I've given talks to public bodies as well as universities and institutions; so the challenges are similar. I don't see a dramatic difference in delivery on the whole, but there are some very interesting examples that we can learn from.

Q125 Lord Broers: This is a question that Mr Cram covered in one of his reports here: does innovation in transport infrastructure come from small or large companies? You were inferring that it doesn't come from small companies.

Colin Cram: No, it can come from small companies. In fact, I can think of examples where it has. I think the major problem that organisations have, that small firms have or any firm with innovation has, is getting its ideas heard and what they tend to have to do is to respond to specifications that are anti-innovative. I have an awful lot of companies, small companies, approaching me and saying how do they get public sector business and the way the public sector goes about a lot of its procurement is it actually shuts out innovation. I talked about framework agreements. They last for four years. No new supplier can get in for that period and very often you don't choose much innovation for these framework agreements either.

So we shut out a lot of innovation and I think that's probably one of the concerns that I have and we need to change our approach on that.

Sometimes there's real difficulty getting lessons transferred from one organisation to another. There's a brilliant example: Tameside Council. The leader of the council, or former leader of the council, developed an approach for replacing street lighting. It may not sound much but there's about £50 million a year spent nationally on this. They saved about 33% with various new practices but many other councils were reluctant to take on those lessons, more for personality reasons rather than anything else.

Q126 Lord Broers: So do you think Government should provide more support for small companies to bid? That's a classic problem, isn't it? It was like some of the early EU framework stuff; that if you were a small entity, whether you were a small research group in a university or a small company, it was very difficult just to find the resource to submit the bid.

Colin Cram: It is extremely difficult as a small company to find the resource to bid. So even though there have been Government initiatives to advertise tenders, firstly, who has the time to look through all of these long lists; secondly, who has the time to tender; and, thirdly, even if you know a very much better way of doing things, you have to respond to the specification. So what I've suggested is there is a different approach that one should use and I'm very disappointed that the public sector hasn't used it so far.

Firstly, one could, I think, support small companies by actually identifying those that are innovative and one can use an EU procedure that's not really been used in this country: the Dynamic Purchasing System. I know we tend not to think of dynamism and the EU in one breath, but that could be operated in a very simple way. Small firms could bid with very little

bureaucracy and very little effort and you could select firms on the basis of their innovative capability. That would be one approach.

Another approach would be to expand the National Health Service Innovation Centre to the rest of the public sector and maybe provide a bit of support to small companies who have some innovative products and then provide some support to them to get public sector business. We don't do that at the moment. We don't have really good mechanisms for supporting small companies.

Q127 Lord Broers: So we should have a research assessment exercise for a small company, should we?

Colin Cram: Well, I wouldn't say great—

Lord Broers: Ranking them 4-star and 3-star might be a very good idea.

Colin Cram: Well, you could do that and you could ask them to apply. But the point is once they're on some sort of list, which you could get them on through a Dynamic Purchasing System, then you have a means of monitoring their usage. So you've identified a range of innovative organisations and you can say, "How much does the public sector use these innovative organisations?" I don't know of any better way and that would be quite a good way of measuring innovation.

Q128 The Chairman: Do either of our other two witnesses have comments about the relative contribution of small and large companies to innovation in transport?

Alan Powderham: It's a lot easier to innovate on a large project that has also a longer timescale, so that challenges small companies. But the reality is that innovation is going to come from motivated and qualified people. This qualifications-based selection procedure that I mentioned that's operating in the United States was codified as the Brooks Act in 1972. So

they've got nearly 40 years' experience of that and it was to protect the interests of the taxpayers.

But it has a whole raft of very attractive benefits that address many of the points that have been raised here, including that it does reduce the disadvantages that are faced by SMEs. So there's a lot to be learnt. If you want to do some research, I'd strongly recommend a review of that process. It was very, very effective, in my own direct experience, in delivering major innovation and seeing small firms also contribute in that way.

Andrew Wolstenholme: I just have a couple of points. If you go down into the layers of supply chain then you'll come across companies of all different shapes and sizes. You'll be surprised by how many SME organisations are there to support with good ideas, innovation and value. I think the constraint here is to create a project environment where you have open innovation through the vertical slots of the supply chain and to create the opportunity where those companies with good ideas can get to the surface, the things that Colin mentioned. Certainly in my experience of delivering the Heathrow Express programme to Heathrow and Terminal 5, there were no surprises by the amount of value generated by third, fourth or fifth-tier suppliers, whose IP is research and development and delivering product innovation.

I've equally seen reflective layers of large delivery organisations not creating the vertical integration that will provide that see-through and not stimulating horizontal innovation that brings systems and sub-systems together to provide the innovation from the process side. I was with one of our senior programme directors from the West Coast of the States last week who has just got the directorship of the Los Angeles Transit System, a programme about half the scale of London's Crossrail, and I was surprised to understand that in the early design development phase he has taken on 29 SME companies, some with only half a dozen people in and some of 50 and 60. And there somehow they seem to have a balance

between getting the SME and the localism views with the experience and the innovation from large companies.

This is a complexity. It is a difficult choice, but I do think that with the generation of open innovation then the ideas and the innovations from small companies should always be seen—many of the great inventions have come from SMEs with only half a dozen people.

Q129 The Earl of Selborne: Mr Powderham has referred twice to the examples we could learn from the United States in successful public procurement for stimulating innovation in the transport sector. We've also had a case study compilation and it's interesting to see that there are quite a lot of examples there from Scandinavia and the Baltic States of innovative electronic ticketing systems, journey planners and much else. I wonder if you could tell us which of the countries and which parts of the world you think the United Kingdom has most to learn about public procurement stimulating innovation.

Andrew Wolstenholme: Well, I think the answer is from both. In the same way that I think each of the public sector departments have great examples of good procurement practice, so too if you go to Scandinavia. I mentioned BIM; the building information management; it seems to be within their DNA. You would spend a lot longer in Japan or in Scandinavia designing and procuring a programme than you would as a proportion of time spent on site building it.

In the States, interestingly, from an organisational perspective, I think the culture and the models that produce alliances or partnering are less well developed and over the next few days I will be bringing parts of my organisation from the States and UK and will be trying to combine the best bits of the States and the best bits of where UK come in. Australia, for instance, have the third generation of competitive alliance projects going on. So I think you could very clearly stand back and pick the best of what we like from the Northern European

countries, certainly from North America; Japan, of course—the culture of how they stick to one job and innovate through a lifetime—versus Australia that tends to create a model where it induces the act of innovation much more regularly than others.

So there are rich pickings from all of these countries, and I think what Egan tried to do, what I try to do in *Never Waste a Good Crisis*, and what perhaps the opportunity is here for this Select Committee is to remind ourselves where the best of those models come from and try, through things like the National Infrastructure Plan, to transition to a place where we can pick the real best of the best and expect to get more from our supply chain into the future.

Colin Cram: Well, I haven't worked abroad but I was at a conference in Scandinavia on innovation procurement about three years ago and I think the presentation that impressed me most was from Japan. Japan really does seem to be trying to drive innovation and sustainability through the public sector procurement processes and I felt they had left us quite a long way behind.

Alan Powderham: Well, obviously I enjoyed the opportunity to outline the US experience I had but since we've raised Japan I'd like to draw the Committee's attention to this report, which was produced by the DTI. It's *Time for Real Improvement*. We're sitting here in 2011. This is 1994 and a lot of the ideas that I keep hearing are in this report. We wouldn't want to pick on everything but *Learning from Best Practice in Japanese Construction R&D* is a very useful report that I still find today has not, as Andrew said, got into our DNA yet. And one of them, indeed, is the fact that, directly from experience, it's a very different culture in Japan. Construction companies lead R&D much more strongly than institutions and universities.

Q130 The Chairman: So, to the extent that this country—and I'm hearing from both you and Mr Cram—have not picked up the lessons from elsewhere, why is that? What's the obstacle to us copying damn good ideas that have been developed in another country?

Alan Powderham: Well, I think it's sporadic. It peaks and then we don't seem to be able to sustain it. I have a suggestion how that could be addressed by the low-hanging fruit I mentioned early on. We have to change our behaviour. We have to get this into the DNA of our projects.

Q131 The Chairman: That's a very vague statement, "get it into the DNA of our projects". It is not explaining why we haven't done it in the past. That's what we would like to achieve, but why has it not been achieved in the past?

Alan Powderham: There's a very useful vehicle that we're already doing but we're not getting very much value from. The two big drivers in our industry are winning work and delivering it. The other aspects become secondary quite easily because it's dominated by those things and also obviously dominated by cost. But we have to do what's known as project review. That's usually associated with quite a lot of effort but not much benefit.

So in association with the Institution of Structural Engineers, the Institution of Civil Engineers and the Health and Safety Executive and internally in my company we've been developing something of a metamorphosis of that process called Peer Assist, which I hope might have an extra resonance today. Basically, it's focused on early integrated support, which would apply to any stakeholder in the project and also engaging the public, the owners, because to innovate you need to understand the implications of it and so you need to become appropriately informed. If the client isn't sufficiently informed in the area of the opportunity, then they need to bring in appropriate advice.

The Chairman: I'm still not convinced I'm getting an answer to my question, but perhaps Lord Rees or Lord Selborne would like to come in.

Q132 The Earl of Selborne: Well, I'd just like to come back to the same question as you asked, my Lord Chairman. There's something the Japanese do that we haven't learnt how to do. We know there's a culture difference. Is it perhaps that the Japanese don't have the same preoccupation as we do with SMEs, which we seem to think are automatically more innovative but for which we have had no evidence?

Colin Cram: Do you want me to perhaps comment? I certainly think we have had a preoccupation of SMEs in Government policies, wrongly. So we've focused on SMEs when we should have been focusing on innovation, because SMEs are possibly one vehicle for innovation. But I perhaps come back to my original point. I think that we have too many parts of the public sector where we don't have the capability. We don't have the capability to do the basics and if they can't do the basics then how are they going to manage the more difficult stuff such as innovation? How are they going to have the time to do that?

So I think there is a question of capability. That certainly is partly down to the structure because too much of it I still think of as chaotic and perhaps some people may think that's an over-strong word but that's the word that comes to me. And I think there's the motivation. If you take the Olympic Delivery Authority, there is the motivation there to innovate; to come up with new ideas. It's a political motivation but they have the capability and they have the purchasing power to do it. But that is very rare in the public sector. By and large, I would say the key success factors for innovation in much of the public sector are absent.

Q133 Lord Rees of Ludlow: I just wondered to what extent the international differences are not so much structural but due to the people and the attractiveness of these careers

because one thing we bemoan in universities is how many of even our best engineers eventually end up in the financial sector, not in either small or large companies and so on. I just wonder if part of the problem of shortage of high quality people on either side of the contract negotiations is because not enough of the bright and motivated people are going into these fields as compared to what's happening in some of our competitor countries.

Andrew Wolstenholme: I think I'm disappointed personally at the number of my peers who went through university to study a technical or engineering degree who ended up still in it and it is no coincidence that a technical qualification is an outstandingly good platform from which to transverse into other industries. I was with Imperial College the other day speaking to 200 academics on this very subject: should, for instance, we acquire more business skills as you come up with an engineering degree to be able to tackle the industry challenges that there are—the change programmes that we've spoken about—and to retain those leaders who can get up to captains of industry and true leadership positions? So I think there is something there. I think creating that sense of strong leadership, you're not going to import a national culture and indeed we wouldn't want to. We need to maintain our composure here and do it in a very British way.

But I would just go back to my point that I think what Paul Morrell is doing in terms of importing this digital technology is, in a sense, stealing things from the Scandinavian countries and the States because the GSA—Federal Department—do that there and that's what the BIS Department is doing here. I think the models of competitive alliance appear to be creeping in now to the National Infrastructure Plan. So there is evidence of taking the best ideas.

But certainly I would agree with you, sir, that it is people who have capabilities beyond technical who can become big leaders, who can see that open cultures provide the environment for innovation, who can start to tackle some of our long-term problems, is

going to be the true answer. So keeping and retaining those technical resources in this industry for longer and even becoming MPs and even becoming Lords is a very good place for them to end up.

Q134 Baroness Perry of Southwark: I was returning very much to the question that Lord Broers asked you earlier, which is the long-term thinking and innovation for 20, 30, 40 years ahead. The Government has things like foresight and horizon scanning initiatives. How can they be brought together with the procurement planning, particularly given the fact that in the public sector many things have to last an awful long time? When you build a school it's going to last for 100 years. You build a train and it's probably going to be in service for 40 or 50 years. You build an aeroplane, ditto; it's going to be in service for a long time. How does industry get involved in innovative solutions to things, like climate change, which are going to be here for 30 or 40 years or probably longer?

Alan Powderham: Well, climate change: that's certainly a grand challenge and it embraces three huge areas for a start. First is the issue of just the global warming from anthropogenic activity. Then there's adaptation including resilience, which addresses climate change that's going to occur anyway, and then there's sustainable energy. I'd recommend reviewing what Professor David MacKay, Chief Scientific Adviser to DECC in Sustainable Energy, without the hot air, has to say on that area.

I'm not sure that there's a seismic difference in a paradigm change, however, in the sense that Sir Alan Harris defined civil engineering as the art of making the world habitable. That's a huge challenge. I think the difference is that we're now facing a crisis, but I don't get the sense at the moment on the ground of much addressing of that crisis. So we have got to make a change to "business as usual" and that's that behavioural change that I referred to.

That use of Peer Assist: I can send some papers in on that but I think that's a very personal way of taking it forward.

The other area that we're not very good in the industry is measurement, monitoring and data, which is very important to answer those long-term issues. There are some bright lights on the horizon, though. My contacts with Cambridge University and Imperial College highlight an encouraging development there. One I'd like to highlight is Cambridge University's Innovation and Knowledge Centre initiative for smart infrastructure. That's a very large R&D focus on answering those questions and taking it forward.

Q135 The Chairman: Could you just give us an example of a transport infrastructure project over the long term, maybe Crossrail or HS2 or new roads, where the Government and the contractors are taking into account the fact that the climate in this country will be very different in 50 years' time when this infrastructure is still in use. Can you give, just very briefly, a concrete example; not generalities but specifics?

Alan Powderham: I can't give an example of that. I don't think we follow them up.

The Chairman: There is not an example, did you say?

Alan Powderham: Not that personally comes to mind.

Q136 The Chairman: Do any of the other witnesses have an example that meets that requirement?

Colin Cram: I certainly can't think of an example where it is taking into account the potential impact of climate change in 50 years, no.

Andrew Wolstenholme: On climate change, certainly when we model infrastructures we will model them in decade slices. So we will model them for 20, 30 and 40 years out and we

will try and get the optimal solution knowing that their relationship with the environment will change. We look at industries being created—

The Chairman: But I want an example, not a process.

Andrew Wolstenholme: I could send you examples of schools that we've analysed that tries to—

The Chairman: No, transport, sorry.

Andrew Wolstenholme: Sorry, transport. No, not off the top of my head.

The Chairman: That's a bit worrying if three witnesses cannot confirm to us that this country is building its transport infrastructure to cope with the future that we know, in broad terms, is going to exist. We don't know the specific details. That is a pretty worrying conclusion, so I just want to be sure that I'm right in understanding what you're saying.

Lord Crickhowell: The about-to-retire Chief Executive of Crossrail addressed Members in this House a week ago and he was asked a related question to this about the flood risk of Crossrail. And he said, "Well, I'm told that we are looking for a one-in-100-year event", to which I'm afraid I observed, as the former Chairman of the National Rivers Authority, that in my experience the trouble about just planning on a one-in-100-year event is they usually happen a week later and probably two of them in three weeks. If we are planning on that basis, it's not a very secure way of thinking simply, "Oh, well, it's a rather rare event", if it's likely that we're going to have an increased risk of flooding.

Q137 Lord Wade of Chorlton: I have listened to the points that you've been making and the emphasis you've been putting really on the role of Government and procurement generally to stimulate innovation in the companies that are delivering, which is rather different than the issue that certainly I thought we were going to look more closely at: as to

The sort of thing I've read recently and you may have read in *The Economist*, DARPA had a problem on the battlefield with having fractures that they couldn't deal with until they went septic. So they went to a team of people at Texas University and said, "We want a solution. We want a hand-held product that our doctors can carry with them and deal with it quickly". And they put together a team that was made up of biologists, of mathematicians, of nanotechnologists, and within two years they'd found a new product that solved that problem. Government paid for it. Government got an answer to a problem that it was dealing with.

Climate change is a problem that we're dealing with. There are a lot of other issues that Government knows are problems. What we're looking for is examples of where Government has said, "I want a solution to this problem. I'm going to pay for it and I'm going to that group of people"—it might be a business, it might be a research group, it might be a university—"and I want a solution and I will pay for it". Have you any examples of that?

Alan Powderham: Well, I've been keeping my powder dry but I am bound to give you the example of the Boston Central Artery where—

The Chairman: This is not UK Government?

Alan Powderham: No.

Lord Wade of Chorlton: I'm looking for an example of a UK one.

Andrew Wolstenholme: Can I just—

The Chairman: Well, while the others are thinking: a specific answer to a very specific question.

Andrew Wolstenholme: I went to the Building Research Establishment, which is based just outside Watford, an organisation with whom I have great respect, and I took 30 of my own

colleagues there to have a look and to see what had happened. And you can sit in that strange place near Watford, and you can see a code-6, a code-5 and a code-4 house and those codes relate to their relationship with zero carbon or not. There are houses sitting there that are zero carbon. They've been stimulated by interested parties who come together that want to, in a sense, sell their solution to a housing market that, at some stage, will provide the economic circumstances where there will be a market for that. Is the answer there in volume? No. Is the answer there technically? Yes, it is. So there in a housing market—forgive me, not transport—is an example where a solution is coming. There is a very good low carbon construction roadmap (IGT) for the UK construction industry that the Government have just issued. It will require careful co-ordination and funding to enable—what the car industry is doing on its own back, but UK construction industry needs some support from. So there's a roadmap.

There are examples, certainly, in housing. I can't think of any offhand in terms of transport but certainly the energy industries that we are very heavily involved in, once you create an economic model—and if it is green energy then it is the price of carbon; if it is energy from waste then it is all the different economic models that derive the right solution—you will get combinations of people coming up with ways to innovate. If there is no stimulation to behave differently, then people won't do it.

Q138 The Chairman: Sorry, we're not getting a concrete example. Can I ask the others?

Alan Powderham: I'll give you one in that case, which is in this report on *Innovation at the Cutting Edge*, which would be the London Underground's concern about its ageing infrastructure. This was the London Underground earthworks. So they came to a group of companies to address this issue on that basis and it was delivered. It was recognised; it won awards; it was part of, as Andrew mentioned, Sir John Egan's *Movement for Innovation*:

Rethinking Construction. So it was recognised and established. So that is quite a strong example.

Q139 Baroness Perry of Southwark: What was the actual problem that they identified?

Alan Powderham: Well, our ageing infrastructure. When we built the railways it was—

Baroness Perry of Southwark: Yes, I understand that but I mean—

Alan Powderham: They weren't built very well, so they keep failing.

Baroness Perry of Southwark: They went to a group of companies and said, "Will you give us some new infrastructure"?

Alan Powderham: "How can we maintain our earthworks so that they don't fail with climate change issues?" A whole range of innovative processes were brought and they're now operating as we sit here. So that was a very successful example of innovative-driven procurement by a public body in this country.

Q140 The Chairman: That was Transport for London that did the procurement?

Alan Powderham: I don't think Transport for London quite—this was in the 1990s. It was London Underground.

Q141 The Chairman: London Underground. Sorry, Mr Cram, do you want to succinctly add—

Colin Cram: Yes. I'm struggling to think of an example. You talk about Government actually driving the change. I think individual Government organisations sometimes drive change through need and I think that's where it happens. But in terms of overall Government policies I would say—

Q142 The Chairman: Can you then give us an example of maybe an agency like the Highways Agency or a local authority, some public body that has stimulated procurement in the way that Lord Wade described in relation to transport?

Colin Cram: I'm struggling in relation to transport, actually.

Q143 Lord Willis of Knaresborough: Oyster Card?

Colin Cram: Yes, Oyster Card. That is a good idea, yes. Thank you very much for that.

The Chairman: Thank you, Lord Willis.

Colin Cram: I can think of small examples but not major ones.

Q144 Lord Wade of Chorlton: Well then, can I ask a further question, my Lord Chairman? Can you think of things that could be solved that way if Government were prepared to do it? We've all talked and we're all aware of problems in society, whether it might be from social problems to practical problems, to roads, to weather, to everything. If you had the opportunity to say to Government, "I have £10 million that I will now give to that research department to solve that problem", what would it be?

Colin Cram: I'm not sure I'd necessarily go for a research problem. I think that—

Lord Wade of Chorlton: Well, whatever it was. I'm not interested about that.

Colin Cram: All right. If on transport, one thing I would love to sort out is local passenger transport of buses. So instead of everyone doing their own thing and buying in buses, specifying things, why can't we have a real engagement, a national engagement with industry, where industry knows that they're talking to people with the power of the spend behind them, with the authority to speak to them, and say, "Well, this is what we want to achieve over the next 25 years. How can you help us actually achieve this?" Then I think we could have real engagement. At the moment it's very bitty.

But what I'm pretty confident is that we could end up with much better services. We could end up with much cleaner transport; probably very different types of buses; a whole range of ways of doing things. But industry has to believe it is speaking to people with the authority to make things happen and, by and large, we don't have that. That doesn't exist at the moment and, therefore, there's not too much chance of dialogue with industry over issues like that, in which case they will never make progress. We just rely on what industry offers rather than trying to drive things forward.

The Chairman: Thank you very much. I think we've now run out of time, so I'd like to thank the three witnesses for their comments. Oh, sorry, did Lord Broers wish to—

Lord Broers: I have just one.

The Chairman: Just very, very briefly.

Q145 Lord Broers: A brief idea to try on them. We talked about small companies versus large companies. The model that I would propose is that you should measure large companies, who need to be the companies that bid on large projects, on their utilisation of small companies. Would you agree with that?

Andrew Wolstenholme: I think that has been proven to work overseas and I think that's a good model.

Q146 Lord Broers: So you could rate a large company on the extent to which they were effective in using small companies?

Andrew Wolstenholme: Yes. I don't think it's a perfect solution but I think it's one that if you balance it, the situation would work. Can I add one final comment?

The Chairman: Only if you can do it in a minute.

Andrew Wolstenholme: Just three things about transport. One is a capacity question. So there are examples where the Highways Agencies have managed motorways to increase the capacity of their motorway system; examples of Crossrail where you increase the capacity of the system in the same infrastructure. So capacity, intermodal solutions where these solutions support and act together and, from a transport policy in terms of car, the electrification of cars is going to be the answer in the next decade.

The Chairman: Thank you very much. Well, I would like to thank all three of you for your time and for your comments to us. If there is anything you would like to add in writing to follow up, if you feel you haven't been able to answer the questions because we haven't given you enough time and you'd like to submit additional evidence, you're welcome to do so. There will be a transcript of this session and you will have a chance to correct that before it becomes part of the formal record of the session. So thank you very much indeed for your time and if the Committee could stay here for a few minutes, we have an item of other business to deal with. Thank you very much.

Supplementary Memorandum by Balfour Beatty (PP 34)

Introduction

Construction is a £120bn industry representing around 10% of GDP. This figure grows if one includes the cost of maintaining capital assets over their life-cycle. There are no other sectors that generate such large spend profiles focused at one industry, namely construction, and at the same time spread the responsibility for procuring assets across so many public sector departments. The Government has realised for sometime the considerable payback that would result from generating modest savings from across the capital budget. Converting this opportunity however has proved difficult. The public sector, as the largest customer in the UK, will have to be at the forefront of change and improve its skills as a client and procurer of major capital programmes, if this is to change. At the same time it will have to develop an approach to stimulate an environment that promotes more 'open' innovation from across the supply chains that build and maintain UK's vital infrastructure.

There are many different definitions for innovation. Some will assume that innovation has to involve making something, a new machine tool or a product. A wider interpretation is that innovation is simply doing things differently to create value. This could be derived through new products, but in the built environment it is as likely to be delivered through new processes, services or procurement models that, for instance, force the creation of long term value. Measured against the manufacturing or automotive industries the supply chains that create our built environment are seldom incentivised to innovate. Against the fastest developing industries, electronics for instance, we tend to be closed to ideas, rather than

open. There are few organisations that are 'leading' change through innovation, as one might have described Toyota for the car industry in the 1990s for instance. Changes tend to be more incremental rather than transformational. But the changes that are made can be described as 'complex', as difficult cultural change across stakeholder groups are so often the precursor needed to deliver the environment for real innovation to occur.

There have been a number of reports written over the past two decades that have focused on the modernisation of the UK Construction Industry. Notably Latham's 'Constructing the Team' in 1994 and Egan's 'Re-thinking Construction' in 1997. In 2009 Andrew Wolstenholme was asked by Constructing Excellence (CE), the body set up to drive through the Egan changes, to find out how the industry had reacted to the Egan agenda, and what the key themes for the industry would be over the next 10 years. With only 'skin deep' changes being witnessed over the past decade, a predicted drop in public and private sector spend for the foreseeable future and a new challenge, namely, the de-carbonisation of the industry, now upon us, the report was entitled 'Never Waste a Good Crisis'.

It is perhaps useful to reflect on the executive summary of the report, which contains many clues that this Select Committee will find relevant:

Executive Summary – Never Waste a Good Crisis (October 2009)

Since Sir John Egan's Task Force published its report Rethinking Construction in 1998, there has been some progress, but nowhere near enough. Few of the Egan targets have been met in full, while most have fallen considerably short. Where improvement has been achieved, too often the commitment to Egan's principles has been skin-deep. In some sectors, such as housing, construction simply does not matter, because there is such limited understanding of how value can be created through the construction process.

For the last decade, the industry has been sheltered by a healthy economy. This has enabled construction to prosper without having to strive for innovation. The current economic crisis is a perfect opportunity for us to think again. We cannot afford to waste it.

Looking ahead, there are major challenges on the horizon. Most clients have already cut their long-term investment plans, and capital budgets will be at risk for many years to come as we anticipate a long period of recovery from the current recession. For Government, there is huge pressure to reduce public spending. But perhaps the greatest challenge is how we can deliver a built environment that supports the creation of a low carbon economy for the UK. So while there is no crisis yet in our industry, we are approaching a time when UK plc can no longer afford to build and maintain the infrastructure capable of supporting our future needs as a society.

So what will make the industry change now when it has failed to do so before? We believe that an essential step is for suppliers, clients and Government to adopt a new vision for the industry based on the concept of the built environment. This means understanding how value is created over the whole life cycle of an asset, rather than simply looking at the building cost, which is only a part of the total equation. It is about how the relatively small up-front costs of design and construction can have such huge consequences for future users, whether expressed as business or social outcomes, as well as for the environment.

The impact of this vision is potentially immense for our industry. We need to abandon our existing business models that reward short-term thinking. Instead, we should incentivise

suppliers to deliver quality and sustainability by taking a stake in the long-term performance of a built asset.

How will this be achieved? We believe that the era of client-led change is over, at least for the moment, and that it is now time for the supply side to demonstrate how it can create additional economic social and environmental value through innovation, collaboration and integrated working – in short, the principles outlined in Rethinking Construction. Clients should focus instead on professionalising their procurement practices to reward suppliers who deliver value based solutions.

Government, as a client, needs to understand the enlightened thinking that better and more intelligent designs improve patients' recovery in hospitals and learning outputs in schools. So, rather than reduce the number of schools and hospitals being built, it must sponsor smarter and more productive solutions and reduce the amount of money wasted on the procurement process. For Government as a policy maker, the challenge is to create an environment that incentivises innovation and speeds up the modernisation process.

There are other stakeholders with a key role to play. We need an education and training system that promotes holistic learning across disciplines, so that industry professionals are equipped with an understanding of how better integration delivers value. We also need industry bodies and professional associations to cooperate better to represent our industry effectively to Government and the public.

Above all, we need leaders who can engage the public and key stakeholders about the 'new value' the built environment brings, who can engage employees to deliver the necessary changes and who can attract more talented people from a wider pool to work in our industry. If our present leaders do not feel up to the task, they should at least support the development of the next generation, who appear to understand very clearly what is needed.

Questions and responses for consideration of the Select Committee

1. *Is the government doing enough to foster innovation through procurement in the public sector in general and with major infrastructure projects in particular? Can you give us some examples of innovation stimulated through public procurement?*

Never Waste a Good Crisis (NwAGC) looked at evidence from ten years of KPIs, ten industry reports and more than a 1,000 questionnaires to come up with its conclusions as to why more progress had not been made around the Egan principles. The simplest explanation is that with ten years of steady growth, the industry was under no pressure to change – there was no 'burning platform'. The lessons from other industries including automotive and manufacturing that had proved to be effective during the 1980s and 90s were, on their own, insufficient to change the majority of organisations representing the construction industries through the 2000s.

There were exceptions however and many of these related to examples where procurement strategies 'forced' supply chains to change. The private regulated industries, especially water and electricity, had to demonstrate added value over a regulated period, normally five years, which in turn had to be delivered across the capital and life-cycle budgets. With the right environment clients and supply chains, often in alliance, or as an integrated partnership, would seek to continuously improve over a period of time. This enabled a predictable work flow to be matched with investment in people, process and innovation. With 'skin in the

game' there has been demonstrable evidence that the right procurement models stimulates innovation and delivers value as a result. There are good examples of this in the utility industries, on road projects and from the 'social infrastructure' sector on hospitals and schools.

The bundling of schools into programmes in 'BSF' challenged educational clients and supply chains to work together to develop solutions that took a system approach rather than to develop individual projects. Despite the huge procurement overhead that had quite incorrectly been allowed to grow, there were some excellent solutions being generated through innovation. The solution developed by Balfour Beatty for the Hertfordshire programme for instance, manufactured new-build schools off-site, bringing the cost down by 25% and reducing the delivery programme by 16 weeks. More importantly the solution focused on business outputs (better education) by working alongside teachers and educational specialists during the early design phases.

Another example is the PFI/PPP model - originally designed to transfer risk to the parties best able to manage it and in doing so improve the efficiency of an assets performance during the capital and life-cycle phases. Some looked at it as being a vehicle to take assets off the 'balance sheet' but this was not, and should never have been a primary driver. Introducing the life-cycle as part of the solution has forced the investing parties and supply chains to deliver and 'own' long term solutions that encouraged a more innovative approach.

Other examples within the transport sector, taken from the Balfour Beatty 'Alliance exchange', a knowledge hub used to transfer lessons across the Balfour Beatty Group, might include work with:

- Connect Plus (Highways Agency), a JV between Balfour Beatty, Atkins and Egis to operate and maintain the M25 – when the scale of the M25 capital and maintenance works were too big to deliver in-house, the HA with the private sector developed this innovative solution which was able to secure funding despite the adverse economic conditions that prevailed at close.
- East Kent Spur Crossrail - (Network Rail) – have, through their procurement department 'bundled' several projects into a single programme, giving the responsibility to a single supply chain partner, set up to deliver the integrated services and better value as a result
- Early Contractor Input (ECI for of procurement)

A feature of existing ECI projects with Highways Agency, Network Rail and more recently Sellafield Ltd is that a target cost is agreed for the construction phase. A pain/gain formula is an integral part of the target cost approach. Gains are achieved through innovative practices – particularly through engaging with key suppliers at local level to deliver improved sequencing. In addition further gains are achieved through managing out risk. ECI projects include

- A3 Hindhead
- A421 Bedford
- A46 Newark
- M1 J6A -10
- Blackfriars Station
- HALEF
- BEPPSI & CIEF

All these examples have shown varying degrees of innovation – an output from working closely with the client team and delivery partners to manage the risks and deliver the customer value through innovation.

There are too few examples of public sector clients creating the incentive, or mechanism, to stimulate ‘open’ innovation with its supplies or where the procurement strategy invited the industry to deliver solutions that deliver value to the tax payer at an ‘acceptable cost’ rather than at the lowest price. (Ian Tyler, CEO of Balfour Beatty has also recently prepared a paper on ‘Delivering Public Sector Infrastructure for Less’ for the Construction Minister and Chief Construction Advisor which outlines a possible new approach to public sector procurement).

The recent publication of the National Infrastructure Plan (NIP), together with the Infrastructure Cost Review, published by the Treasury, defines a well thought through approach to tackle some of the issues described above.

Paul Morrell, the Chief Construction Advisor is working hard to join up the best practices, including procurement, across all Government Department. An initiative that deserves support from all departments is promotion of Building Information Modeling (BIM) on all future public sector projects. This initiative is to be commended and will in itself force the UK industry to innovate around the use of IT and data technologies with the potential to make significant savings in time and cost across both the delivery and operational phases of an assets life-cycle.

2. *In your experience, what obstacles do potential suppliers of innovative solutions face in responding to public procurement requirements in transportation? Are these obstacles the same when dealing with central government as oppose to local government? How might these be tackled? Can you give us examples of when such obstacles have hindered public procurement in your dealings with the Department for Transport and its agencies?*

Transport systems are complex. It seems that in the UK however we make them more so through our planning system and through the early development phases, when we seek to develop a clear scope and business case. The period over which the design of a major infrastructure project is developed is often several years and this alone is sometimes prohibitive to delivering innovative solutions.

While not in the public sector, Heathrow’s Terminal 5 is a good example of how protracted time frames for the early development phases can be counter-productive. The design that was submitted for public enquiry was already four years ‘out of date’ by the time the Government’s inspector gave BAA permission to build. Despite this BAA were bold, and innovative in how it engaged with its supply chain to develop the scope and to challenge the delivery ‘norms’ that were offered by the UK construction industry at the time.

There were many examples when the supply chain offered different ways of managing the risks of the 50 projects and sub-projects that made up this £4.3bn development programme. Logistics solutions, manufacturing of mechanical and electrical systems in modules, pre-assembly of systems and sub-systems including the new Visual Control Tower, testing off-site, particularly IT systems were all new to the industry. The real innovation at T5 however was the development of ‘people solutions’, the alignment of objectives and processes and the incentivisation of teams committed to delivering ahead of expectations. The governance process was kept simple so that decisions could be made rapidly and when things went wrong the whole organisation could respond quickly to put the programme back on track.

Many of the lessons from T5 were used to help the 2012 team at Stratford set up their highly successful programme. Unlike T5 there was little appetite for suppliers to work on the 2012 site at the start of the programme, until that is the industry were confident that a procurement strategy, a governance structure and a client team were in place that would balance risk and reward across the unprecedented scale of operations that they were about to face.

The 2012 'construction commitments' set out the expectations for client leadership, procurement, integration, sustainability, design quality, commitment to people and Health and Safety. These all define an environment where supply chains can innovate in the knowledge that their ideas will be assessed openly and where the value that they bring to the client will be 'shared'.

In contrast it is disappointing to work on programmes where the client teams often come from mature organisations with highly prescriptive standards and procedures and where innovation is less well received. There needs to be a better balance between good ideas that bring value, and a view that innovation adds unnecessary risk. The experience can be stifling and counter-productive, particularly where there is a healthy respect for risk management alongside responsible innovation.

3. *Does innovation in transport infrastructure come from small or large companies?*

One needs to differentiate between the different types of innovation and how each is stimulated across the interfaces of a major transport programme.

Recent trends on major transport projects have seen the client procure the services of a delivery partner. This can sometimes be as an extension of the client team, or more usually as a 'management' layer or integrator between the client and delivery supply chains. Delivery partners are normally awarded to large organisations able to draw on resources from large pools and with a depth and breadth that would be able to demonstrate experience of projects of a similar scale and nature.

The integrator role has the opportunity to combine the skills of the supply chain in combinations that allow the value to be channeled across the defined interfaces to deliver a truly integrated solution. Without sometimes knowing it the delivery partner role has the opportunity therefore to bring much innovation value through this approach. They also have the ability to freeze out good ideas. Their behaviour will depend largely on their own incentive model passed down by the client team.

As skills and products are procured through the various tiers of the supply chain so the size of company will vary. There is no pattern as to whether a manufacturing company, who's 'unique selling point' is to supply latest technology through R&D programmes, are large or small. The suppliers of rail systems however will likely demand, by their scale, a high level of capitalization and are likely to be big multi-nationals. These are perhaps characterised by the large European based engineering companies who deliver rolling stock, signal systems and overhead power supplies.

By contrast some of the system and communication networks, together with 'system integration' can be delivered by smaller companies. With an agenda that promotes the use of SMEs and 'localism' it is still possible to design a procurement strategy that accommodates both large and small companies to deliver innovation – even on large transport projects.

4. *How does the UK compare with other countries in the use of public procurement as a tool to stimulate innovation in transport infrastructure? What can the UK learn from other countries?*

The ability to stimulate innovation through procurement is very largely related to the maturity of the sponsoring department and client agent. There are only two questions that matter.

How good is the client at leading the complex process of developing a brief to define the operational requirements of the asset over its life-cycle, a business case, managing change through its delivery and bringing the asset into operation? Second, is the maturity and approach of the client able to develop a procurement strategy that balances delivery and operational risk with a supplier's capability and capacity to manage the risk? Value for money is delivered when the incentivisation model makes it worthwhile for the supply chain to share IP for an appropriate reward. When this does not occur the client will be denied good ideas from a supplier who will feel threatened by the risk of failure, rather than incentivized by the reward of sharing innovations.

The ability for clients in the UK to lead the former is varied. There are well developed delivery models in Australia where they are entering the 2nd/3rd generation of competitive alliancing, particularly for Highways infrastructure. In the US by contrast, there are many client organisations that consider 'design and build' to be introducing 'conflict of interest', and choose to separate the disciplines.

5. *What should government do to link procurement with foresight and horizon scanning activities in order to meet society's grand challenges such as tackling climate change? What should the government do to engage industry in these activities? What recommendations would you make to Government to make better use of public procurement as a tool to stimulate innovation?*

Government have done a very good job in developing an agenda for the industry to de-carbonise through its work on the Innovation Growth Forum (IGT), chaired by the Chief Construction Advisor (CCA). Only through a properly funded implementation programme of this nature will there be a joined up plan that tackles all side of the challenge.

Without doubt this programme will be the biggest change programme the industry will see over the next 40 years. As with previous answers innovation will deliver the changes necessary if the business/procurement models are set up to incentivise the change. 'Zero carbon' houses, developed by the UK supply chain, exist today and can be seen as prototypes at the Building Research Establishment (BRE) near Watford. The housing market will respond to the demand for low energy and carbon neutral dwellings when the economics of the housing market is right to do so.

18 January 2011

Supplementary memorandum by Colin Cram, Managing Director, Marc I Ltd (PP 35)

Purpose of this Paper

- I. The following document provides further comment on some of the issues raised at the House of Lords Science and Technology Select Committee hearing on 18 January 2011. Specifically it comments on:
 - Innovation through Procurement
 - Office of Government Commerce Progress vs Efficiency and Reform Group
 - Immediate Opportunities
 - Measurement
 - Local Passenger Transport
 - Climate Change

Innovation through Procurement

2. Innovation through procurement (often called 'Innovation Procurement' by academics) needs to be defined. A pragmatic definition is below:

'Innovation, created or driven by procurement, that is over and above what is required to deliver the needs of the organisation undertaking or requiring the procurement'.
3. Using this definition, very few UK public sector procurements could be called 'innovation procurement'. There is nothing special about innovation that is driven by organisational needs – it should be done anyway. The purpose of the UK government's policy (and that of other EU governments) to use the huge scale of public sector procurement to generate innovation is to be able to compete with other economies, particularly those in the Far East. It would be meaningless to have such a policy unless it was intended to deliver results over and above what one would get through competent procurement on behalf of the organisation for which it is being undertaken.
4. There are some procurements that could arguably be classed as 'innovation procurement' even though they may be driven by perceived needs. Examples would include the British Olympics and 'Diamond'. Elements of the Millennium Dome were a good example of innovation, but not by UK suppliers. The Millennium Bridge over the Thames may be an example. The Highways Agency 4 years ago was quoted in European academic circles as having delivered 'innovation procurement' through a new approach for motorway electronic signs that allowed much greater flexibility in the messages that could be shown. Its business plan refers to this using the term 'managed motorways'. It is involved in the British Olympics preparation.
5. 'Innovation in the Department of Transport' is arguably the best response of any government department to the requirement for innovation procurement plans. The Highways Agency has a procurement strategy that includes innovation and sustainability and the business plan includes references to sustainability and planning for climate change.
6. Local government spends nearly £4bn a year on capital transport works (mainly roads). It is not evident that innovation and sustainability are part of the conditions of providing such funding or how such policies could be enforced. My knowledge of

local government would suggest that a significant proportion of authorities might not have the capability. It is not evident that the Highways Agency is addressing this.

7. Smaller scale innovations by local government, such as the 'Tameside slipper', that enabled quick and very cheap replacement of street lights (estimated national spend on street light replacement in 2009/10 would have been of the order of £40m-£50m) was an excellent example of innovation, but illustrated also the obstacles to getting such innovations adopted more widely in that fragmented environment, even when the benefits were obvious and proven.

Office of Government Commerce Progress vs Efficiency and Reform Group

8. The issue was raised that if the OGC was doing some excellent work, as stated in 'Towards Tesco', how does the ERG compare? For example, the OGC started to do some very good work on collaboration on common categories in both central government and the wider public sector. However, it did not have the power to mandate, its changes were therefore incremental and it was not able to apply the full purchasing power of the public sector. The ERG work on common categories builds on the work the OGC was doing. Its concern is with central government only and thus the spend being addressed amounts to £13bn – out of a total public sector procurement spend of over £200bn a year. The 25% savings target would thus equate to £2.6bn if achieved. However, this would represent a saving of little more than 1% of public sector purchase spend, which is well short of what is needed overall.
9. The above savings will be boosted by the negotiations with major suppliers to central government – suggestions are that this has been £0.9bn. However, many of those suppliers do greater business with the wider public sector, which has been ignored. The savings achieved through the negotiations with central government's main suppliers would boost the total to 1.5% of public sector spend, still well short of what is needed overall.
10. The OGC also did some other useful work e.g. on project management and extended this to policy (e.g. 'Starting Gate'), which is being continued by the ERG.
11. The progress and ambition of the ERG is beginning to look disappointing. It appears to be tackling some of the symptoms, rather than the disease. The disease is summarised in 'Towards Tesco' and the solution is proposed. Radical improvement will not be achieved through incremental and symptom change. Radical improvement might be no more difficult to sell than incremental change and the 'symptoms' would automatically be addressed. 'Towards Tesco' proposes how this might be achieved throughout the public sector and not just central government.

Immediate Opportunity

12. Through its approach to try to manage common categories, the ERG has the opportunity to drive through sustainability requirements and make innovation through procurement a reality and a general rule, albeit for just 6% of public sector procurement spend. Sometimes, such as with managed print services replacing photocopier procurement, innovation can result in much lower costs and big reductions in CO2 emissions. Mandatory use of 'innovation procurement' agreements should enable measurement of the extent to which such innovation takes place.

13. The government could also place a requirement on Buying Solutions (formerly OGC Buying Solutions and now part of the ERG) to drive innovation and only supply those products and services that are the 'greenest' on the market. Its public sector business of £7.5bn (which is mostly included in the £13bn being tackled by the ERG) would enable it to make an impact. Expenditure on 'green' products could be measured.
14. The procurement and use of cars for official purposes could illustrate what could be achieved if the public sector behaved in a coherent way. It is not unreasonable to suggest that use of cars by public sector personnel will equate to at least 50,000 cars at 10,000 miles each a year. (This seems a reasonably conservative figure given that there are about 6million public sector employees). Many of these cars will be privately owned. However, were the public sector to aggregate its total procurement spend on vehicles and ensure that official journeys were made in official vehicles, it should have enough purchasing power to influence innovation by manufacturers, particularly if it were to reduce choice to one or two of the most efficient vehicles and commit to volumes.

Measurement

15. The suggestion was made that the use of smaller companies (SMEs) by contractors could be measured. This could be done fairly easily for the main contractors if there was a single public sector organisation responsible for all the procurement and contracts management with each contractor. However, some contractors serve several hundred (possibly several thousand) public sector organisations, most of which operate independently. Measurement would become impracticable. The difficulty is emphasised by there being many thousands of suppliers to the public sector. However, I am not aware that anyone has shown a correlation between the use of SMEs and innovation, so it is questionable whether any attempt at such measurement would have any value.
16. A practical approach to measuring innovation would be through the proposal in the paper I originally submitted to the select committee about the use of the Dynamic Purchasing System to create 'approved lists' of innovative suppliers. These suppliers would be able to report the value of their business with the public sector. (See also paragraph 13 above re Buying Solutions and paragraph 12 re the ERG).
17. The Small Business Research Initiative, overseen by the Technology Strategy Board, does support some innovation and it is measurable. However, 50% of its support has been for companies supplying to the MOD and 25% to the NHS. I am not sure that this bias was the intention behind the initiative. Only one initiative appears to relate to transport and this is a piece of research. The DWP, in its Procurement Innovation Plan refers to encouraging its category managers to use the SBRI. However, it does not appear to have placed any business so far.

Local Passenger Transport

18. The Local Passenger Transport initiative, that I started in 2005 when Director of the North West Centre of Excellence (NWCE), illustrates the problems created by the lack of cohesion in Whitehall and the public sector generally. The work streams set up as part of this project are listed at the Appendix to this note. Further information can be provided if required.

19. NWCE, one of 9 regional centres of excellence, set up by CLG in early 2005, existed to encourage and support 47 local authorities deliver savings, mainly through procurement and shared services. Each of the 9 regional centres of excellence also had a national lead and that for NWCE was Local Passenger Transport. Local government spends about £3bn a year on local passenger transport (excluding trains), including a large sum on taxis and transport for people with special needs and the elderly. See note below*.

*Note: Government figures suggest that £0.9bn is spent by local government on local passenger transport. However, this excludes bus passes for the elderly and the very large amounts spent on taxis and other vehicles for school children – particularly special needs, the elderly and special needs adults.

20. A further £2bn a year is spent on parking for the general public (local government, NHS, universities etc), but was not addressed by this initiative. The NHS also spends money on local passenger transport, which would take the total public sector spend on local passenger transport close to £6bn a year. Roads maintenance and transport capital works managed by local government were excluded from the project and are not part of the above spend figures.

21. There are several hundred public sector organisations involved in managing local passenger transport. There are estimated to be about 1000 involved in public sector parking.

22. The potential benefits from the project were:

- Savings of up to £200m pa
- Better public transport services
- Greener public transport
- Introduction of new technology
- Increased use of public transport
- Safer transport for children (too many of whom are transported in taxis whose drivers have no CRB checks) and other members of the public.

The project cost around £200K a year and was funded by NWCE.

23. Departments with an interest in it were DCLG, Department of Transport, Department for Education (DCSF at the time) and Department of Health. Both DfE and DH proved difficult to work with at times.

24. DCLG replaced the regional centres of excellence by the much better funded regional improvement and efficiency partnerships (RIEPs) in early 2008. However, oversight passed from DCLG to the Local Government Association, the emphasis temporarily changed to 'improvement' rather than 'efficiency' and all national work streams ceased.

25. There were some successes but, overall, this was a missed opportunity and much good work squandered. Although the Department of Transport had been supportive

and was keen to see the work continue, it provided no funding to replace that which was lost, presumably seeing this as a DCLG issue.

26. Had the project continued, it would have provided the opportunity for a single approach to the bus operators and manufacturers to create 'greener' and more suitable transport – thus driving innovation.

Climate Change

27. Apart from the Department of Transport and the Environment Agency, I am aware of no public sector organisation that is planning for the likely impact of climate change. Possible reasons are:

- Most public sector organisations are rooted in the present. For example, few local government organisations did much planning for the funding cuts they will experience from next year. Nor did they take advantage of efficiency opportunities, even though the cuts were seen as almost certain by most people. So the chances of planning for climate change will be slim.
- Funding of public sector organisations does not encourage forward planning for climate change.
- There remains much scepticism and indifference about whether climate change will happen and its possible impact. For example, delegates at the Local Government Association conference last summer were treated to a lecture by Nigel Lawson, much of which was about why local government should ignore possible climate change.

24 January 2011

Appendix: Passenger Transport Efficiency Project Work Streams

1. Disseminate good practice

Article I.

2. Identify Benefits/Downsides from Integrated Transport Units (Report published and distributed)
3. Upgrade/introduce new IT and communications systems
4. Integrate with non-emergency NHS transport (Report published and distributed)
5. Introduce integrated social needs transport in metropolitan areas
6. Taxis
7. Reduce bus operating costs and stimulate passenger growth
8. Concessionary fares
9. The journey to school
10. Partnership in bus network development

11. Engaging the voluntary sector
12. Vehicle procurement
13. Training
14. Good practice guidance on tendering and contract conditions

A complete copy of the initial project document can be provided, which describes the work-streams and their objectives in greater detail

Further Supplementary Memorandum by Colin Cram FCIPS, Managing Director, Marc 1 Ltd (PP 36)

Purpose of the Paper

1. The procurement responsibilities and programme of the Efficiency and Reform Group may most usefully be seen as the latest stage in an evolutionary journey that started with the new Conservative government in 1979. The areas covered include common procurement categories, the central government estate, publications, ICT and project and programme management. This paper summarises the procurement 'journey' and explains the relationship and differences between the Office and Government Commerce and the Efficiency and Reform Group. It does not cover the non-procurement related ERG responsibilities.

2. The Efficiency and Reform Group is part of the Cabinet Office, whereas the OGC was part of the Treasury. The Cabinet Office has traditionally been responsible for management of the civil service, so the transfer of the functions makes sense in terms of improving the management of central government. However, the Treasury is better placed to drive through efficiencies in the wider public sector as a whole.

A Brief History

3. There had been central government collaboration on procurement spend for decades – centuries for some products - through buying agencies. Until the late 1980s, stationery and publications all came through HMSO; ICT was all handled by the Central Communications and Telecommunications Agency; the Central Office of Information handled all publicity; the central government civil estate was owned by, and all contracting for it was done by, the Property Services Agency; the remaining commodities goods and services were handled by The Crown Suppliers. Use of these organisations was mandatory for central civil government departments.

4. These organisations were largely disbanded in the 1980s. It was argued that devolution to central government departments should ensure greater efficiency, accountability and responsiveness. However, the departments did not have the expertise and systems to handle their new responsibilities; the resulting inefficiencies were not evident and the finance and information systems were not capable of highlighting them. It was this devolution that led to the formation of duplicate 'back-office' functions in central government departments, including procurement, ICT and estates management, and widely differing ICT systems in central government for similar or identical functions.

5. The Office of Government Commerce was preceded by the Central Unit on Purchasing, which was set up in late 1985, in response to a report, to which Colin Cram was a major contributor, that

central government was failing to obtain value for money from its civil procurement (then estimated to be £7bn a year). One aim was to encourage collaboration and another was to improve procurement expertise. It had to operate through influence and had limited impact. The shortcomings of this devolved approach were highlighted in the late 1990s and 2000s by various studies, including Gershon, the Operational Efficiency Programme (commissioned in 2008), reports in 2010 such as 'Towards Tesco' and that by Sir Philip Green.

The Office of Government Commerce moved the agenda forward particularly in project management, collaboration on common categories and latterly on rationalising the government estate. It focused on improving procurement expertise in central government departments rather than rationalising the structure, for which it could justifiably be criticised.

Common Procurement Categories

6. Common procurement categories continued to be addressed in the 1990s by The Buying Agency, a rump of The Crown Suppliers. Rather than letting contracts, because use of its agreements was not mandatory, it had to let framework agreements without any spend commitment, so it was difficult to secure best value. However, its influence and the scope of its agreements and services expanded considerably during that time. As a result of the first Gershon review, which led to the creation of the Office of Government Commerce in 2000, The Buying Agency was re-named OGC Buying Solutions in 2000 (and was re-named 'Buying Solutions' early in 2010) and it became an 'arms length arm' of the Office of Government Commerce. Its influence continued to expand, though the bulk of purchase spend continued to be through framework agreements. Also, it was allowed to expand into the wider public sector, which is increasingly using its agreements. In 2008, it took over about £3bn of NHS procurement from the NHS Purchasing and Supply Agency (PASA), which was disbanded. This has given Buying Solutions greater purchasing clout, which it has used increasingly on behalf of the public sector as a whole.

7. In 2005, the OGC started to create its own category teams and, under some excellent leadership, these started to deliver some good results and the benefits of collaboration were clearly evident. Consequently, these category teams started to rival Buying Solutions. They also started to engage with the wider public sector. The category teams could not mandate and had to operate through encouraging collaboration. Collaboration is expensive and lack of mandation meant that results were not as good and were delivered more slowly than might otherwise have been the case. However, there was a big increase in collaboration on common categories throughout central government and significant savings were achieved, thus demonstrating the potential of this approach.

8. The ERG is continuing the evolution of category work and building on that of the OGC. Mandation has been widely discussed as an option since about 2007, but required agreement from the Cabinet. The decision by the current government to go down this route provides the opportunity to use the full central government purchasing power to reduce the cost of goods and services in these categories (through the 'deep dives' i.e. detailed examination of central government's supply and demand chains) and for effective engagement with industry. It provides the opportunity for much more innovation, though it appears that the present government may be seeing lowest cost as a higher priority and more innovation as a lower priority than before. (The two are not incompatible). However, being confined to central government, the common categories cover no more than 7% of public sector procurement spend and some of the goods and services within these categories may not prove quite so common as at first appears.

9. It seems almost certain that the former OGC category management groups will join Buying Solutions, which will therefore have a function for central government that was almost identical to that of The Crown Suppliers 30 years ago. With the additional oversight that now exists through the National Audit Office, this should be welcomed. It would not be surprising if it did not start to take on more contracting and procurement functions for some central government departments. My presumption is that Buying Solutions will take a more vigorous approach to cost reduction than in the past and that innovation will take a back seat.

10. Buying Solutions is funded through supplier rebates, so its effectiveness depends on the amount of business going through its purchasing agreements. It is, therefore, difficult to imagine that Buying Solutions will lose its interest in the wider public sector, in particular the NHS, so it may be a route gradually to capture the wider public sector market. There seems no reason why Buying Solutions should remain part of the ERG.

Projects

11. The 'Gateway' was introduced by Lord Gershon (then Peter Gershon) in 2000 and was 'owned' and promoted by the OGC. This was intended as a series of checks/reviews, using a traffic light system, at critical stages in the life of a project to prevent its proceeding to the next stage until outstanding issues had been satisfactorily addressed. For projects, the 'Gateway' became the norm for central government and increasingly throughout the wider public sector. Generally, project management by central government and many other parts of the public sector improved considerably. There were some notable project failures, e.g. the major NHS scheme for an integrated information system. However, such failures normally (possibly always) happened when project controls such as the 'Gateway' were ignored and where there was strong political pressure to implement.

12. The OGC also introduced 'Starting Gate' in 2009 for central government policies. This was not mandatory, but enabled scrutiny of a potential policy at its conception and whether it was likely to be realistic and deliver the objectives that were anticipated. It therefore enabled such potential policies to be re-examined and, if necessary, dropped. The proposed reorganisation of the NHS would be ideal for both 'Starting Gate' and the 'Gateway' to be applied rigorously as it is a project on an unprecedented scale.

13. The ERG is clearly going to continue the drive for improved project management and management of major contracts. It appears that significant projects will have to be approved by the ERG, which should improve chances of success and reduce the chances of ignoring the result of 'Gateway' reviews. It is to be hoped that it will press forward with 'Starting Gate' and that this will become mandatory for policy development. Almost all policies are projects in anything but name, but have not traditionally been regarded as such.

ICT Procurement

14. It is not clear what will happen to ICT, but I suspect that we will have a central group whose functions are almost identical to those of CCTA 30 years ago, i.e. having responsibility both for procurement and technical ICT issues. It seems logical that, because of the importance of ICT to government efficiency, operations and policy delivery, that such a group would be part of the Cabinet Office, if not the ERG.

Central Government Estate

15. The team responsible for trying to secure the more effective management of government property (particularly that of central government) has gone to BIS. It seems likely that centralised management of the central government estate akin to the Property Services Agency, disbanded in the 1980s, will be created.

Negotiations with Major Suppliers

16. The OGC introduced tighter management of major suppliers. However, the ERG has taken this much further and more vigorously, with Sir Francis Maude leading the negotiations with the major suppliers to central government and achieving significant savings. Most of those suppliers have more business with the wider public sector than with central government and this has been ignored. Were there to be a single point for the high level management of these suppliers on behalf of the whole public sector, engagement with them would be possible in a much more meaningful way and they would have much greater incentive to innovate.

Purchase Spend Analysis

17. The OGC Category management group used published data to try to estimate the total value of public sector procurement spend and the value of spend in each common category. This was a useful initiative. The ERG appears to be proposing to build on this and is holding discussions with various organisations that can provide a purchase spend analysis service.

Conclusion

18. The ERG is building on the work of the OGC, but taking a more radical approach for central government. The benefits for central government in terms of service and savings should be significant (approximately £3bn pa) through mandation of purchasing agreements and negotiations with main suppliers). However, central government is the tip of the iceberg and by withdrawing from the wider public sector, a huge – the main – opportunity is being lost. An integrated procurement structure along the lines proposed in ‘Towards Tesco’ would provide an ideal model for delivering much greater value for money and innovation and the ERG is in an ideal position to be able to oversee this. It is not impossible that this is the intention of some senior people in the ERG and statements about the limited aims of the ERG may reflect discretion in view of the government’s drive for devolution.

19. Central government organisations have a habit of continuing beyond their planned life. For instance, the Central Unit on Purchasing, created in 1985, had an original life of 3 years. This was extended to 5 years and then to 15. After 5 years it could be argued that it became part of the problem. The ERG role in procurement needs to have its objectives and life time defined – with no prospect of an extension. The objectives should be achieved within a limited timescale, say 1 year for the re-structuring of central government procurement and a further 18 months to 2 years if it tackles the wider public sector.

2 February 2011

Supplementary Memorandum by Mr Alan Powderham, Mott MacDonald (PP 30)

Public procurement as a tool to stimulate innovation: Additional Evidence – Examples

Examples of innovation in transportation infrastructure are provided below. Many of these were mentioned in my oral evidence and I now include key details.

The following points should be noted:

- All projects are selected from my direct experience which I have either led or advised on. I would be pleased to provide further background to any of them if required.
- Those below are in addition to the three other UK transportation projects (Heathrow Express, LU Earthworks, and Newbury Bypass) which are comprehensively described in the CIRIA report ‘Innovation at the cutting edge’ that I tabled during oral evidence.
- All projects selected demonstrate successful innovation achieved in collaboration with Government and / or its agencies. While this success is encouraging, it should not be viewed as a ringing endorsement of “Public procurement as a tool to stimulate

innovation”. The ‘stimulation’ ranged from overt at the beginning of procurement to seemingly reluctant and late support in the face of crisis.

- I have focussed on the positive and avoided examples where innovation was either hindered or even rejected. In part because it may be misleading to try to prove a negative and also since I do not know all of the factors that may inhibit innovation on such large and complex projects. However, we could certainly do much better.
- While innovation may be characterised by ‘concrete’ examples or products, the importance of process is not fully realised or appreciated. In my experience this applies to both engineers and laymen. The interdependence of process and technical innovation is highlighted in the report ‘Innovation at the cutting edge’. (Ref: ‘Safety and Risk: The Right Balance’, DFI 2010).
- Stimulating innovation is not a new challenge but, as I stated in oral evidence, there are excellent and, so far, significantly under-exploited opportunities to pursue.

Recommendations:

- Government procurement through Qualifications Based Selection (QBS) in the USA should be reviewed and the transferable benefits adopted. (See attached).
- Apply Independent Review through Peer Assist. (See attached).
- The synergy of QBS and Peer Assist could transform projects. This is not theory. It has been strongly demonstrated in my own experience.

Selected Projects:

1. Channel Tunnel (1986 – 1990)

- Wide range of technical innovation supported by government (IGC), for example novel use of sprayed concrete linings for UK crossover tunnels.
- Holywell: Railways Inspectorate (RI) consulted designer on problem of ‘floating’ box structures carrying high speed trains. Concern re tight tolerances and potential for ongoing settlement. RI initially proposed deep foundations to bed rock. As the designer, I explained that the bed rock was so deep that such a solution would be very expensive, time consuming and moreover would still involve movement. Our collaboration identified a cost effective novel solution which has exceeded expectations in practice.

2. Limehouse Link, London UK (1991)

- Project in crisis – high cost and programme over-runs.
- In collaboration with DoT and LDDC innovative change introduced to contract through creation of a Value Engineering (VE) clause.

- VE innovations saved over £5m in materials with project completed 6 months ahead of schedule setting new benchmarks for excellence.

3. Docklands Light Railway – Protection of Mansion House, UK (1989 – 90)

- Crisis – tunnelling stopped because of perceived unacceptable risk to Mansion House.
- London Underground seeking solution presented challenge to my company.
- Solved by innovative use of leading edge telemetry and Observation Method.
- Savings amounted to around £15m and 18 months reduced programme.

4. Irlam Railway Bridge, Manchester, UK (1997-8)

- Aging infrastructure with deficient foundations in contaminated ground.
- Working with Network Rail led to innovation of world's largest polystyrene embankment and a first for the UK solving a syndrome of conflicting challenges.

5. Piccadilly Line - safeguarding service at Terminal 5 Heathrow Airport, UK (2002)

- Risk of unacceptable movement to Piccadilly Line from construction at Terminal 5.
- Collaboration with London Underground supported novel use of structural concrete.
- Comprehensively and safely solved with major savings in materials and time.
- Ongoing Government support through funding PhD research (EPSRC) at Imperial College to extend potential of this innovation.

6. Boston Central Artery Tunnel Jacking, USA (1991- 2001)

- Most cogent example of overt and sustained stimulation of innovation through public procurement. Enabled by USA Government Qualifications Based Selection (QBS).
- Close collaboration with both local and federal government delivered innovation leading to over \$300m savings as well as major programme benefits and enhanced safety.
- Such successful innovation would be highly unlikely through other forms procurement.

7. SMART (Stormwater Management and Road Tunnel) Kuala Lumpur, Malaysia (2002-07)

- Initiated by Federal Government to address increasingly severe flooding in the city.
- Unique solution incorporates 3km section of double deck motorway tunnel which simultaneously provides both flood relief and alleviates traffic congestion in centre of KL.
- Excellent example of Government stimulated innovation to tackle long-term climate change.

Independent Review through Peer Assist

Is your project adequately assisted?

What value did review bring to your last project? Was it timely? Could it have been better? Peer Assist is widely becoming the review process of choice within Mott MacDonald and can readily bring benefits to any project. Those that have adopted Peer Assist heartily endorse this. Quotes include:

“The process provides an excellent forum to test design assumptions and always proves very stimulating for younger members of the team to be able to participate in critical assessment in a constructive setting”. “Initiating Peer Assist at the bid stage and early in the concept design can provide the greatest value to our customers and differentiate us from our competitors.”
“Peer Assist is fundamental to risk management.” “Peer Assist is a key process in delivery of cradle to grave professional excellence. It promotes innovation”

Peer Assist is applicable to any project and any scope of review and is particularly effective for complex or challenging projects. It is very flexible and can focus review on a specific aspect in a timely way, be it safety, technical, or commercial. This of course does not remove the need for an overall project review – which can also be undertaken through Peer Assist.

Peer Assist has highlighted extra benefits including:

- **Communication:** Stimulating greater awareness and interaction within the project team and with the customer.
- **Catalyst:** The interaction encouraged by Peer Assist has provoked re-evaluation of initial assumptions and helped misconceptions to be addressed early and effectively. Examples have included clarifying the brief and deliverables, duty to warn, and a wide range of innovation.
- **Mentoring:** Because Peer Assist is so direct and wide ranging, a strong communication between the reviewer(s) and project team is rapidly established. It has proved particularly helpful to the younger members of the team in creating access to experienced staff and tapping into wider knowledge and experience.
- **Stimulates Innovation:** Enhances the balance between risk management and creativity.

The focus that Peer Assist brings to risk management and safety has led to its endorsement by the ICE, IStructE and the HSE through its promotion by SCOSS. A Guidance Note and Model Form of Agreement for Independent Review through Peer Assist are now published on the SCOSS website: www.scoss.org.uk .

Can your project afford not to be assisted?

Federal Procurement of Architectural and Engineering Services

Qualifications-Based Selection (QBS) is a procurement process established by the **United States Congress** as a part of the **Brooks Act (1972)** to protect the interests of the taxpayers.

Background:

- Creative services cannot be fairly priced before the creative process has taken place.
- Studies in the USA show that over the life of a project, engineering services account for less than 0.5% of total costs. Yet these services play a major role in determining the other 99.5% of the project's life cycle costs, as well as the quality of the completed project.
- Lowest cost is widely recognized as the poorest criterion for service selection when quality and professional creativity are sought.
- Most individuals would not seek important medical or legal services on a low-bid basis.

Key Benefits of QBS:

- Competition among best performers – not low bidders
- Life cycle costing
- Team building and collaboration
- Reduced changes
- Flexible contract approaches
- Reduces disadvantages to SMEs
- Safeguards public interest - value and safety.
- Stimulates Innovation

The above criteria were very successfully met for the innovation of the tunnel jacking on the Boston Central Artery – a project described as open heart surgery on a city. So the analogy of avoiding low- bid selection for medical services has particular resonance for this example of QBS procurement. It provided the motivation for innovation and the time to develop it. It would have been highly unlikely with other forms of procurement.

Key Steps in QBS Procurement:

- Owner establishes general scope and programme – the base case.
- Request for Qualifications (RFQ).
- Shortlist of qualified firms to be interviewed.
- Highest ranked firm invited to assist owner in defining detailed scope.
- Fee proposal submitted for review and agreement.
- If not, negotiations initiated with second highest ranked firm.
- Final fee subject to audit.