Cabinet Office

Government Construction

Construction Cost Reductions, Cost Benchmarks, & Cost Reduction Trajectories to March 2014

2nd July 2014

CONTENTS

Technical Annexes

FOREWORD

This is the third year that government has published construction cost benchmark data as part of the broader implementation of the Government Construction Strategy.

The Strategy outlined the detailed measures that are being implemented in order to match the best in private sector delivery of construction projects. This publication therefore reports on the progress government departments are already making in achieving this objective and how they want to go further. Private clients and construction suppliers are therefore invited to work with government in order to share in the learning that comes from comparing cost benchmarks and practices (GovernmentConstructionTeam@cabinet-office.gsi.gov.uk).

Document Overview

The report that follows is split into 6 main parts:

Introduction	Introductory narrative providing the context for this publication and a summary of progress made to date.
Part 1: Cost Reductions:	Actual cost reductions, together with how departments are achieving them.
Part 2: Cost Benchmark Data:	Cost data sets for a range of public and regulated bodies are presented in the following formats: - **Cost distribution charts** - *individual project data* - **Tables** - *aggregated data for a range of projects* - **Trend charts** – *visual depictions of the tabular data* - **Elemental tables/charts** – *subsets of the above data in more granular form*
Part 3: Use of Cost Benchmarks:	Progress being made by departments in comparing their cost data with other departments and private clients.

Part 4: Cost Reduction Trajectories:	Restatement of departmental cost reduction commitments first published in 2012. These show the *speed* with which cost reduction will be achieved.
Technical Annexes:	For the data in this report to be of value it is important to detail how the costs presented have been built up.

INTRODUCTION

This document provides construction cost benchmarking information from 2009/10 through to 2013/14 and the corresponding trends across a 5 year period.

It reports on the progress departments have made in reducing construction costs, including **full year savings for 2013/14 of £840m[1].** It also reinforces the critical importance of tracking cost trends at a time when increased cost reductions compared to 2012/13 are accompanied by the first indications of possible increases in unit construction costs.

As construction industry growth accelerates, implementation of the Government Construction Strategy (and its measures) offers ways to mitigate increasing construction cost pressures. This publication supports these key initiatives by providing the macro / programme level evidence of the effectiveness of the common procurement principles that are embodied by the New Models of Construction Procurement (the final guidance for which is published alongside this document). Cross Government implementation of these principles and Building Information Modelling - together with measures to improve public clients' understanding of the relationship between forward work pipelines and skills and materials demand and supply - are at the vanguard of Government's response to market pressures.

This document also presents updated granular (elemental) department cost benchmarks, together with data included from local authorities and regulated industries. The participation of local authorities reflects the increasing collaboration between Cabinet Office and the Local Government Association's National Procurement Strategy Construction Workstream.

The presented information shows the range of costs currently paid for departmental construction projects and the detailed measures departments are implementing to reduce those costs. It also provides further evidence that the Government Construction Strategy's overarching target - to achieve a sustainable[2] reduction in the cost of construction by 15-20% by the end of this parliament - is being achieved more widely across government. The information contained within this document therefore remains necessarily detailed because the unit cost data presented needs to be explained in terms of its build up so that it is of value to an increasing range of clients.

[1] In Year savings have been achieved as follows: 2011/12: £72m; 2012/13: £447m; 2013/14: £840m.
[2] Without adversely impacting either whole life value or the long term financial health of the construction industry.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

In parallel with this document, further trial project case studies are being published which report on the journey of change embarked on by departments and local authorities and how the first real benefits are being achieved from an improved understanding and application of unit costs. While this publication evidences the macro / programme level cost reductions being achieved by departments, the trial project case studies demonstrate how implementation of the common procurement principles on individual projects is also achieving savings outcomes that can be replicated on other projects.

Examples of how the use of benchmarks is reducing costs across Government

In rebasing its forces from Germany to the UK, the Ministry of Defence used existing construction cost benchmarks to successfully challenge its supply chain so that solutions were offered that significantly reduced cost and improved value for money.

Similarly Ministry of Justice used existing construction cost benchmarks in challenging and reducing the capital costs submitted by PFI bidders and in providing guidance to other bidders competing for HMYOI Cookham Wood (the subject of one of the published trial project case studies). Since all projects now have to be submitted in the same price format, this facilitates effective like for like comparisons and provides detailed supply chain information for each work package including supplier overheads, profit, risk and fees.

Environment Agency's Lincshore project reduces flood risk along 20 kilometres of Lincolnshire coastline from Mablethorpe to Skegness. The area protected by the scheme includes about 16,000 residential and 1,700 commercial/industrial properties (including some 19,000 static caravans) and various environmental assets (including Sea Bank Clay Pits SSSI). Implementing a range of Government Construction Strategy measures Environment Agency has tracked the reduction in the unit cost for essential beach nourishment for this project from an original benchmark of £17.8/m^3 in 2010 to £11.3/m^3 in 2013/14.

Taken together, these initiatives are increasingly leading to the implementation of consistent practices across Government and other public bodies that will deliver sustainable cost reductions and help mitigate growing construction market pressures.

This publication therefore reinforces the process of making Government more transparent and accountable to citizens and taxpayers. Moving forward, the information within this document will continue to be developed and the trends relating to the initial reporting of contract award costs will be increasingly validated by subsequent trends relating to outturn costs. This will confirm cost reductions can be sustained against the baseline benchmarks provided in the document in order to monitor progress by the departments concerned.

Feedback and queries on this document would be very welcome and should be sent to: GovernmentConstructionTeam@cabinet-office.gsi.gov.uk).

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Summary of the benchmark data, cost reduction plans and cost reductions achieved

Benchmarks: Departmental cost benchmarks are presented in the form of charts and tables. The charts present data points relating to a range of projects, while the tables summarise these data points in the form of single point averages and ranges defined by the 20th and 80th percentile thresholds. Typically the charts present the 2009/10 baseline cost distributions and the 2013/14 cost benchmarks (refer to **Charts 6 to 26**).

Corresponding trends can also be seen in the tables (refer to **Table 5** to **Table 14**, **Table 18** to **Table 24** and **Annex A**) which provide annual data from 2009/10 (baseline year) through to 2013/14. The accompanying charts (**Charts 27 to 40**) also show recent trends.

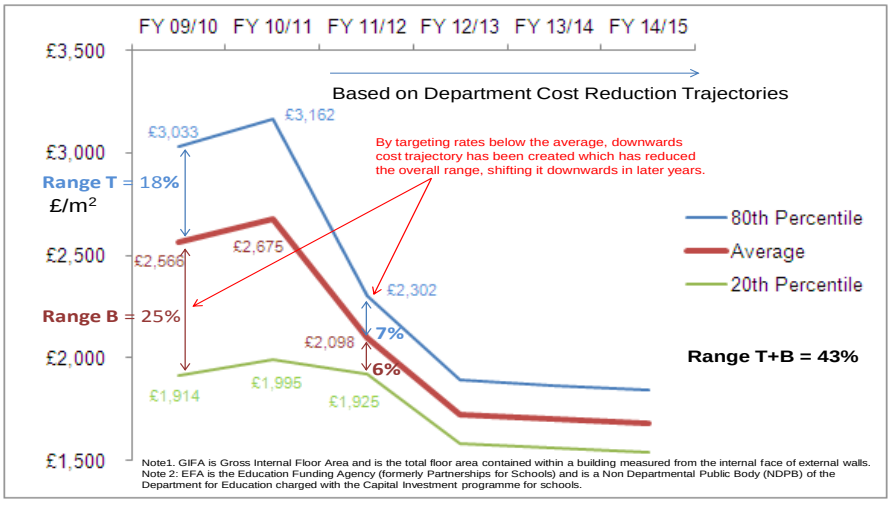
These trends, taken together with the overall cost reductions of £447m in 2012/13 and £840m in 2013/14 reported in Table 2 below, indicate that departments continue to achieve cost reductions compared to the 2009/10 baseline.

This should be expected, since - as was first reported in 2012 - the **Range T** values shown within Charts 6 to 26 for the 2009/10 baseline typically ranged from circa 10% to 30%.

Chart 1: Note on Range T

The percentage difference between the 80th percentile and the average, divided by the average, is denoted as Range T. Range T provides an indication of the opportunity available to departments to target costs lying between the average and 20th percentile (Range B), which would establish a cost reducing feedback loop and corresponding cost reduction (refer to illustration of this outcome in Chart 1, which is based on data from Table 13).

Chart 1: Illustration: DfE/EFA GIFA for 4000 – 6000m²



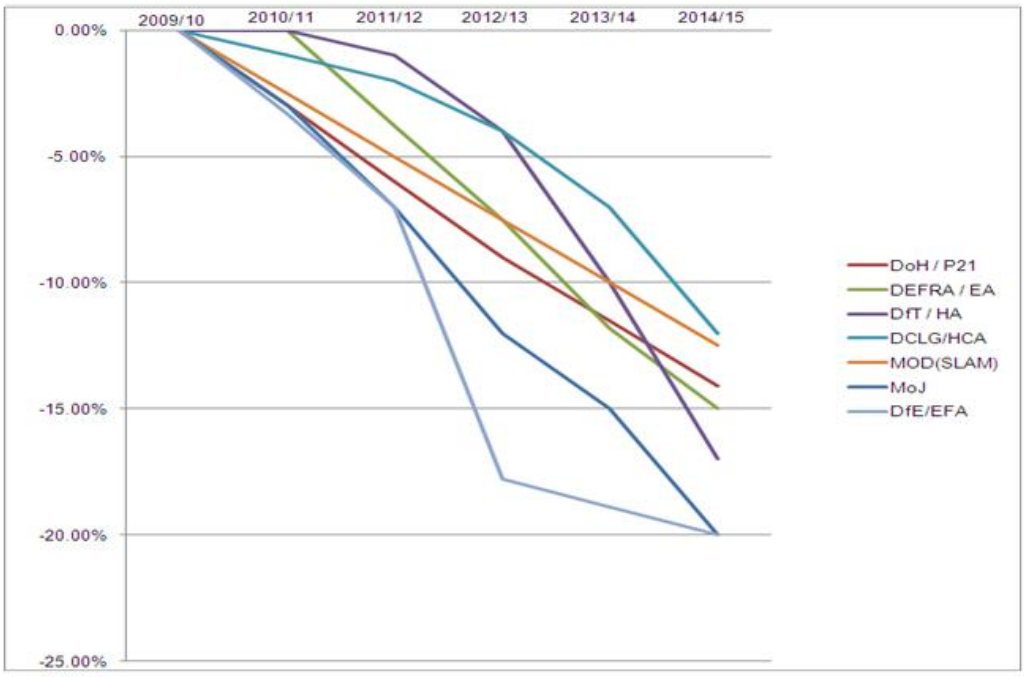
Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

A more detailed analysis of the **Range T** and **Range T+B** values is presented with the charts in Part 2 of this document with corresponding commentary provided in **Table 4**.

Departments continue to engage with private client organisations and the Building Cost Information Service to develop comparisons between public and private benchmarks. An important aspect of making such comparisons is to understand what has been included or excluded within any given benchmark and this is addressed in **Tables 16, 17, 20 and 24** in the main body and **Annex B** of this document.

Cost Reduction Trajectories: The Cost Reduction Trajectories included in this document **(Table 33)** – which are shown in graphical form in **Chart 2** below - confirm that departments have committed to trajectories that will deliver between 12% and 20% by the end of this Parliament. The departmental initiatives that are being implemented to achieve these trajectories have been set out in **Table 3** and Cabinet Office continues to work with departments to ensure trajectories are developed further towards meeting the aspiration of achieving 15-20% cost reduction.

Chart 2: Department Cost Reduction Trajectories



Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Cost Reductions achieved during 2011/12, 2012/13 and 2013/14: Table 2 in Part 1 of this document states the cost reductions achieved for 2011/12, 2012/13 and 2013/14. Charts 4 and 5 compare the resulting cost reduction percentages with the department trajectories set out in Table 33 and Chart 2. **The IN YEAR cost reductions for 2011/12, 2012/13 and 2013/14 in Table 2 have been subject to Cabinet Office internal audit[3]. For 2011/12 these are also shown with the indicative WHOLE PROJECT LIFE[4] cost reductions for some departments. For 2012/13 and 2013/14 all departments provided IN YEAR cost reductions.**

The overall cost reductions declared by departments for 2011/12 were:

- **In-year:** £72m[5] on an expenditure of £476m (13.1%).

In contrast, the overall cost reductions declared by departments for 2012/13 and 2013/14 were:

- **In-Year 2012/13:** £447m on an expenditure of £2.4bn (15.6%)
- **In-Year 2013/14:** £840m on an expenditure of £3.5bn (19.6%)

In general, these cost reductions represent lower spending confirmed during the development and construction phases of specific projects that were awarded and registered by departments and devolved bodies during 2011/12, 2012/13 and 2013/14. The relatively high overall percentages reflect that a significant proportion of reported data is from DfE / Education Funding Agency and DfT / Highways Agency. These departments are particularly well advanced in implementing the principles set out in the Strategy.

Important note: Within this document cost reductions are reported at the prices current during the corresponding period. So, for example, the 2011/12 cost reductions are reported at prices current in 2011/12, while the 2012/13 cost reductions are reported at prices current in 2012/13. The 2009/10 baseline has therefore been inflated to 2011/12 and 2012/13 prices respectively. This permits comparison of cost reductions with those from other categories of spend reported *by Cabinet Office in each annual period.*

In contrast, cost benchmarks are reported in this document in constant 2009/10 prices. So, for example, the 2012/13 benchmarks have been deflated to prices current in 2009/10. This permits the generation of consistent benchmark trend diagrams that can be added to year on year. Refer to Annex C for further detail on the inflation adjustments used by each department.

[3] Facilitating overarching Cabinet Office reporting of progress, internal audit is only performed on the IN YEAR portion of WHOLE PROJECT LIFE cost (in this case the portions relating to 2011/12, 2012/13 and 2013/14).
[4] Predominantly those cost reductions relating to the total project value corresponding to the construction phase and which are therefore realised over a number of years.
[5] Only two departments reported in year cost reductions for 2011/12 (DfE / Education Funding Agency and DfT / Highways Agency).

INTRODUCTION: COMPARISON WITH DOCUMENT PUBLISHED DECEMBER 2013

Table 1 provides a summary comparison with the version of this document published December 2013.

Table 1: Comparison with the previous version of this document published December 2013

Relevant Sections	Adds updates to earlier data	Data / reports published for the first time
Part 1: Cost Reductions		
Cost Reductions achieved in 2011/12, 2012/13 and 2013/14	Table 2 contains updates column for 2013/14 with full year savings. Table 3 contains updates to departmental commentary.	Includes savings from Network Rail (NR), BIS/Skills Funding Agency (SFA) and breaks out DfT/Highways Agency (HA)-Network Delivery and Development (NDD) for the first time. New Charts 3, 4 and 5 showing Achieved Cost reductions by department.
Part 2: Cost Benchmark Data		
Cost distribution charts	Baseline charts remain unchanged. Departmental charts 6 to 23 updated to reflect 2013/14 data.	New Chart 21 for Ministry of Defence (MOD) Airfield pavements New Charts 24 to 26 for National Schools Delivery Cost Benchmarking (NSDCB).

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 1: Comparison with the previous version of this document published December 2013		
Relevant Sections	**Adds updates to earlier data**	**Data / reports published for the first time**
Tables and Trend Charts	Tables 5 to 13 updated with 2013/14 data. Charts 27 to 40 updated with 2013/14 data where available.	New Table 9 for MOD Airfield pavements New Chart 28 for Department of Health (DH) refurbishment
Elemental Cost Tables and Charts	Updates to Table 16 and 17 departmental commentaries.	New Chart 44 for MOD Airfield pavements
Regulated and Wider Public Sectors: Cost Tables	Update to Table 18 to 24 London Underground Ltd (LuL), NR and NSDCB data for 2013/14.	New Charts 50 and 51 for LuL Cost Benchmarks. New Table 21 and 22 for NSCDB
Part 3: Use of Cost Benchmarks		
Dept Progress in Generating Public Private Comparisons	N/A	N/A
Part 4: Cost Reduction Trajectories		
Part 4: Dept Cost Reduction Trajectories	Update to Table 33 for DfT/HA-Major Projects (MP).	N/A
Technical Annexes		
Annex A: Regional DCLG/Homes & Communities Agency (HCA) data	Updates to Table 34 to 38 to include 2013/14 data.	N/A
Annex B: Cost Components within Department Cost Benchmarks	Updates to Table 39 to 41.	New table 42 for MOD Airfield Pavements
Annex C: Inflation Adjustments	Updates to Table 43 departmental commentary.	N/A
Annex D: Extract from Greater Manchester Chamber of Commerce Pipeline Analysis	N/A	New Figure 2

PART 1: COST REDUCTIONS

COST REDUCTIONS ACHIEVED IN 2011/12, 2012/13 AND 2013/14

Initial cost reductions for 2011/12 reported in Table 2 below were calculated on the basis of department specific methods. Subsequently from 2012/13 the cross government counting method was adopted by all departments. This method is described in the February 2012 publication: *Cost Reduction Validation Method*.

Table 3 below describes the measures departments are implementing to achieve these cost reductions.

Typically, cost reductions have been calculated with reference to outline business cases, funding calculations or framework rates that used benchmarks from the baseline year 2009/10 or before. In general, these cost reductions represent lower spending during the development and construction phases of specific projects awarded by departments and devolved bodies during 2011/12, 2012/13 and 2013/14.

The IN YEAR cost reductions for 2011/12, 2012/13 and 2013/14 shown in Table 2 were subject to Cabinet Office internal audit[6].

[6] Facilitating overarching Cabinet Office reporting of progress, internal audit is only performed on the IN YEAR portion of WHOLE PROJECT LIFE cost (in this case the portions relating to 2011/12 , 2012/13 and 2013/14).

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 2: Cost reductions achieved April 2011 to March 2014[7]				
Department	**Results Category**	**2011/12[8]** **IN YEAR** (unless noted WPL = Whole Project Life)	**2012/13** **IN YEAR**	**2013/14[9]** **IN YEAR**
BIS / SFA	**Actual Cost Reductions**	n/a	n/a	£58m
	Actual % Cost Reduction	n/a	n/a	10%
DCLG / HCA	**Published Cost Reduction Trajectory**	2.0%	4.0%	7.0%
	Actual Cost Reductions	£16m (WPL)	£35m	£42m
	Actual % Cost Reduction	11.0% (WPL)	11.7%	13.3%
DEFRA / EA	**Published Cost Reduction Trajectory**	3.8%	7.5%	11.8%
	Actual Cost Reductions	£6m (WPL)	£17 m	£20m
	Actual % Cost Reduction	3.6% (WPL)	8.7%	14.1%
DfE / EFA	**Published Cost Reduction Trajectory**	7.0%	17.8%	18.9%
	Actual Cost Reductions	£51m (WPL: £138m)	£86m	£127m
	Actual % Cost Reduction	12.2%	11.3%	31.4%
DfT / HA-MP	**Published Cost Reduction Trajectory**	1.0%	4.0%	10%
	Actual Cost Reductions	£21m (WPL: £81m)	£115m	£379m
	Actual % Cost Reduction	16.0%	22.0%	27.7%
DfT / NDD	**Actual Cost Reductions**	n/a	£163.1m	£119m
	Actual % Cost Reduction	n/a	18%	15%
DoH / P21	**Published Cost Reduction Trajectory**	6.0%	9.0%	11.5%

[7] Some figures may not sum due to rounding.
[8] Facilitating overarching Cabinet Office reporting of progress during 2011/12, 2012/13 and 2013/14, internal audit is only performed on the IN YEAR portion of WHOLE PROJECT LIFE cost reductions achieved on new contracts awarded and/or projects registered. WHOLE PROJECT LIFE cost reductions are therefore indicative.
[9] All reported savings can be sourced from the Cabinet Office Technical Note https://www.gov.uk/government/publications/government-savings-in-2013-to-2014

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 2: Cost reductions achieved April 2011 to March 2014[7]				
Department	**Results Category**	**2011/12[8]** **IN YEAR** (unless noted WPL = Whole Project Life)	**2012/13** **IN YEAR**	**2013/14[9]** **IN YEAR**
	Actual Cost Reductions	£22m (WPL)	£15 m	£60m
	Actual % Cost Reduction	2.9% (WPL)	6.8%	12.9%
MoD	**Published Cost Reduction Trajectory**	5.0%	7.5%	10%
	Actual Cost Reductions	£4m (WPL)	£0.6m	£8m
	Actual % Cost Reduction	5.30%	10.0%	9.3%
MoJ	**Published Cost Reduction Trajectory**	7.0%	12.0%	15%
	Actual Cost Reductions	£12m (WPL)	£15m	£25m
	Actual % Cost Reduction	10.3% (WPL)	16.5%	18.4%
Totals		**IN YEAR: £72m** (WPL: £279m[10])	**IN YEAR: £447m**	**IN YEAR: £840m[11]**

In addition to the Central Government cost reductions reported in Table 2 above, cost reductions achieved by Network Rail (NR) are also included in this publication for the first time. NR savings sit outside of the Cabinet Office construction efficiency targets and are reported for information only. This is the culmination of the continuing participation of NR in the working groups associated with the Government Construction Strategy and Infrastructure UK's Cost Review, the inclusion of NR efficiency data in earlier versions of this publication and the close alignment of NR's approach to efficiency with the aims of the above initiatives.

Since the results of the Office of the Rail Regulator's review of NR's annual cost reductions are typically only made available 6 months after the end of the financial year, the figures reported

[10] The WHOLE PROJECT LIFE figure of £279m includes the IN YEAR figure of £72m.
[11] The Construction cost reduction figure published in the ERG Technical note was rounded down to the nearest £1m and the audited figure is £840.56m. Departmental figures are therefore also rounded down to the nearest £1m. The Actual % Cost Reduction is based on the Actual departmental saving.

below relate to 2012/13 and are considered representative of those expected for 2013/14. Further commentary and detail on NR savings is set out in the annual IUK Infrastructure Cost Review report.

- **In-Year 2012/13:** £248m[12] on an expenditure of £2.053bn (10.8%)

The cost reductions achieved by NR fall into two categories: 1) reduced volumes of work from being smarter about asset renewals; and 2) reduced unit costs from being smarter in delivering asset renewals.

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014

Department	Commentary on the source of cost reductions
Department of Health/ P21	Cost reductions are being achieved through the roll out of the following initiatives: 1) The P21+ tender action which provides a cost reductions of approximately 3% on all projects; 2) Through setting challenging cost per sq metre benchmarks based on data from completed schemes; these are updated bi-annually to reflect projects reaching agreement of the guaranteed maximum price in the preceding six months. 3) Standardisation of materials, products and components; this comprised two main elements: a) Standardising of materials, products and components providing greater leverage in negotiating better bulk purchasing agreements detailed under item 4; and b) Standard room design where a rolling programme of standard room designs are being produced based on a list of the most commonly used room types. This will again help contribute to savings through bulk purchasing and also savings on construction labour and design costs as well as the possibility of greater off-site fabrication. 4) Bulk purchasing of materials, products and components: A prioritised list of materials, products and components was produced

[12] The portion of the total cost reduction reported here relates to those components of Network Rail's total construction relevant cost reduction for 2012/13 that were agreed as eligible by internal audit when compared with the other cost reductions presented by Central Government departments.

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014	
Department	**Commentary on the source of cost reductions**
	following analysis of those most commonly used. A rolling programme is in place for the framework partners to establish agreements with suppliers that demonstrate significant savings on the baseline prices and also incorporate standardisation where possible. This benefits achieved to date include savings of up to 30% on some materials prices. 5) Engaging with P21+ supply chain partners to drive the use of Building Information Modelling (BIM) on all contracts delivered through the P21+ Framework. This is an active workstream and within the framework take up and adoption of BIM is increasing significantly. 6) Governance: In order to maintain momentum and ensure continued buy-in from the framework partners (PSCPs) there are bi-annual meetings with the Chief Executive Officers of each PSCP to discuss progress and opportunities for further efficiencies.
DEFRA/ Environment Agency	Cost reductions come from initiatives addressing packaging of projects and procurement (25%), streamlining project development and approvals process (20%) and value engineering using innovation and alternative methods to deliver the same outcome (55%). These are logged via a savings register and represent costs avoided prior to business case sign off (from procurement initiatives or where a new issue arises and is addressed without additional outlay) and cash released after the approval of the business case.
DfT/ Highways Agency	In 2011/12 the HA had committed to save 20% off the original 14 SR10 Major Projects. In the Autumn Statement 2011 HA made a further commitment to save 20% (£201m) off an additional 6 schemes. The revised programme target taking in the new schemes therefore gave a forecast of 20% (£644m) cost reduction across 20 schemes against an estimated expenditure of around £3220m. In addition to the 3 schemes that started in 2011/12, during 2012/13 HA agreed target costs on a further 5 schemes: M6 J5-8 (BBox3), A11 Fiveways, M25 J5-7, M25 J23-27 and A453 Widening. Planned efficiencies have been identified addressing the following areas/activities: commercial/improved cost targeting; delivery process; standardisation of products; category management of commodities; improved

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014	
Department	**Commentary on the source of cost reductions**
	risk and value management; reducing waste/increasing productivity. The cost reductions achieved by HA in relation to highways maintenance, renewals and enhancements have been a result of implementing similar measures to those highlighted immediately above for HA's Major Projects programme. In addition to these efficiency measures, HA has also reduced volumes of work through being smarter about asset renewals and enhancements.
DCLG/ Homes & Communities Agency	The figures provided relate to New Build construction. They have been determined by multiplying the difference between benchmark rates achieved in 2011/12, 2012/13 and 2013/14 respectively and baseline rates from 2009/10; with the actual 2011/12 through to 2013/14 construction spends reported by social housing providers. The devolved nature of housing delivery has presented opportunities for bottom-up innovation within existing allocations for 2011-15. HCA and DCLG continue to play an active role in promoting the development and take-up of such innovation by: - identifying and spreading best practice; - identifying and rectifying barriers to take-up of innovation placed by the funding process; and - in particular, by capitalising on improved cost data collection in 2011-15 to establish benchmarks and challenge performance. The use of an ambitious cost reduction forecast has particular value as a market signal. However, the levers available to HCA/DCLG to deliver forecasts are less direct than those in other public construction contexts. With a view to achieving the cost reduction ambition within the constraints of the possible, HCA has worked in co-ordination with Cabinet Office to develop the evidence base for the forecast trajectory addressing in particular: - analysis of cost data for the 2011-15 AHP as starts-on-site under contract commence, with the specific intention of understanding construction cost drivers - considering dimensions such as organisation size, presence or absence of development partnership, Section 106 sites, procurement method, use of procurement consortia, construction technique - and relative

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014	
Department	**Commentary on the source of cost reductions**
	performance; - dialogue with providers - in particular through annual contract reviews - to understand possibilities and constraints; and - dialogue with innovators in the construction and development industries, to obtain their views on what is possible. The specific initiatives implemented are as follows with the assumed contributions by 2014/15 given in the brackets: - Aggregation/ commoditisation in procurement (4%); - Supply chain engineering (including local contractor and combined capital works models) (4%); - Cost-led procurement (1%); and - Integrated supply chain supporting product innovation (3%) HCA has focused activity on the largest providers and - for new build - on those schemes with the largest floor area and hence ability to affect the average £/m^2. For new build, the cost distribution data given in Charts 14 to 18 was used to identify these schemes (in 2009/10, 20% of schemes made up over 50% of the total m^2).
Ministry of Defence	Corresponding to the benchmarking data reported in the accompanying charts and tables, declared cost reductions represent those achieved in relation to the provision of Single Living Accommodation procured for the period in question. The cost reductions have been derived on the basis of award costs (target prices) for contracts awarded during 2013/14 with construction durations up to 2015/16 with the majority of spend in 2014/15. These have been achieved on top of the 18% Continuous Improvement efficiencies (on repetitive elements of project Target Costs) that were achieved over the 9 year duration of Project SLAM (Single Living Accommodation Modernisation). Whilst the majority of the cost reductions declared above result from delivering the same or similar scope at reduced cost, throughout the SLAM programme there have also been ongoing design development reviews. These have brought together users, designers, builders and various subject matter experts, to collaboratively and critically focus on the scale and quality of provision. These initiatives have sought to achieve facilities which - whilst

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014

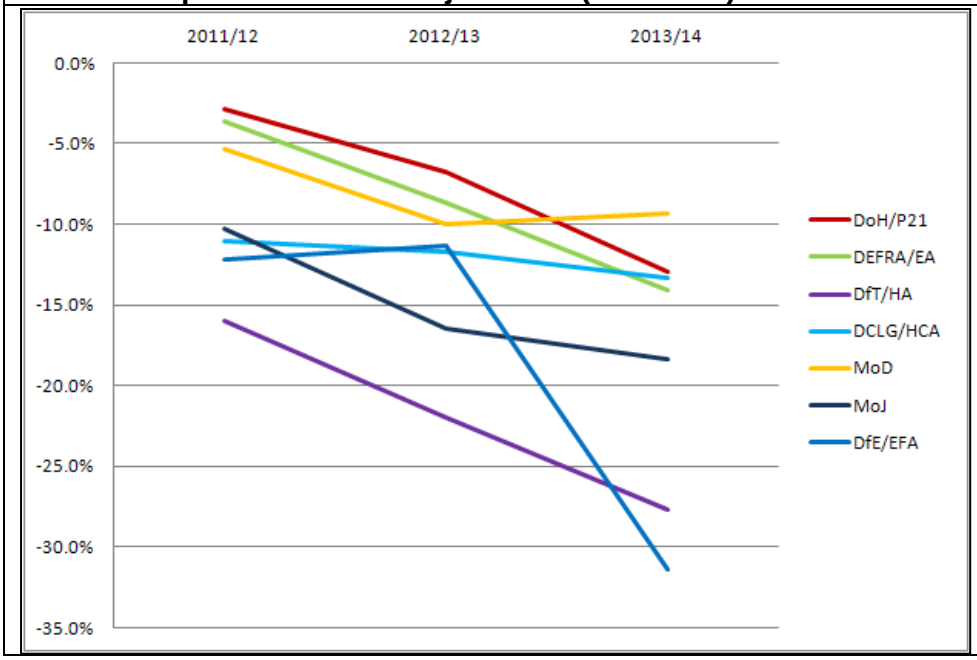
Department	Commentary on the source of cost reductions
	continuing to fully satisfy the needs of the service community - are stripped of any expenditure where resultant 'added value' is considered questionable. Having already expanded the approach above to Service Families Accommodation and Airfield Pavements, MoD is now in the process of extending it to other accommodation types required as part of its Army Re-basing Programme and other programmes: • Offices (Phase 2); • Messing (kitchens, dining and function rooms etc) (Phase 2); • Stores (Phase 2); • Mechanical Transport Accommodation (Phase 2); • Medical Accommodation (Phase 3); • Education Facilities (Phase 3); and • Hangers (Phase 3). In doing so, MoD has made the most of its membership of the Joint Data and Benchmarking Task Group to share and learn from a wide pool of collective experience, enabling more coordinated engagement with industry in striving to deliver the ambitious targets set by this initiative. MoD are also participating in a number of associated trials of New Models of Procurement, namely: • Specialist Training Centre, RM Lympstone (Integrated Project Insurance); and. • Queen Victoria School (Cost Led Procurement). The success of these new models will be carefully monitored, with any financial effects being fed into developing benchmarking data and associated cost reduction trajectories.
Ministry of Justice	Cost reductions have come from an ongoing lean initiative to increase the proportion of spend on the end product and a corresponding reduction in non productive costs (particularly those related to upfront design and site overhead costs/schedule duration). Cost reductions have also come from the introduction of mini competitions into the existing framework and the increased bundling of projects. Also a new Strategic Alliance Framework was introduced in April 2012 which has resulted in further savings. The savings have been calculated on the basis of the cost per square metre of

Table 3: Construction related Departmental Cost Reductions achieved between April 2011 and March 2014	
Department	**Commentary on the source of cost reductions**
	the projects reaching Agreed Maximum Price Stage compared to the cost per square metre of comparable 2009/10 benchmark projects. The data gathered by MoJ using the Cost Component Breakdown has demonstrated further benefits to the industry. Although the product value has increased and effectively more product has been received per £, evidence indicates the levels of profit and overheads have been sustained both at main contractor and supply chain level.
DfE / Education Funding Agency	Recent cost efficiencies have delivered school places at about 38% below Building Schools for the Future (BSF) over the lifetime of the last parliament. This has been achieved via procurement through the EFA Contractors Framework and the standards underpinning new baseline designs. Through baseline designs, reductions in overall floor areas have been achieved whilst: safe-guarding classroom and teaching areas; and delivering facilities that are functional and resource efficient, for example, by designing out over-complex environmental services. ICT costs per school are also now 60% below BSF costs. Further savings are being achieved through further standardisation of components e.g. doors, windows, M&E, etc.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

The Actual savings being achieved by departments from 2011/12 through 2013/14, and shown in Table 2, have been produced graphically in Charts 3, 4, and 5.

Chart 3: Department Cost Trajectories (Achieved)



Charts 4 and 5 below compare the achievements by department against their respective targets, through adoption of the principles of Data and Cost benchmarking and the initiatives in the GCS.

Note: The departmental groupings have been selected to provide maximum clarification graphically and not for the purposes of comparing departmental performance.

Chart 4 shows that DfE/EfA is well in advance of target, DoH for the first time is ahead of target, and MOJ remains ahead. Once MOD commences their re-basing programme it is anticipated they will bring their trajectory back on track.

Chart 4: DfE/EfA, DoH, MOD, MOJ Cost Reduction Trajectory Comparator

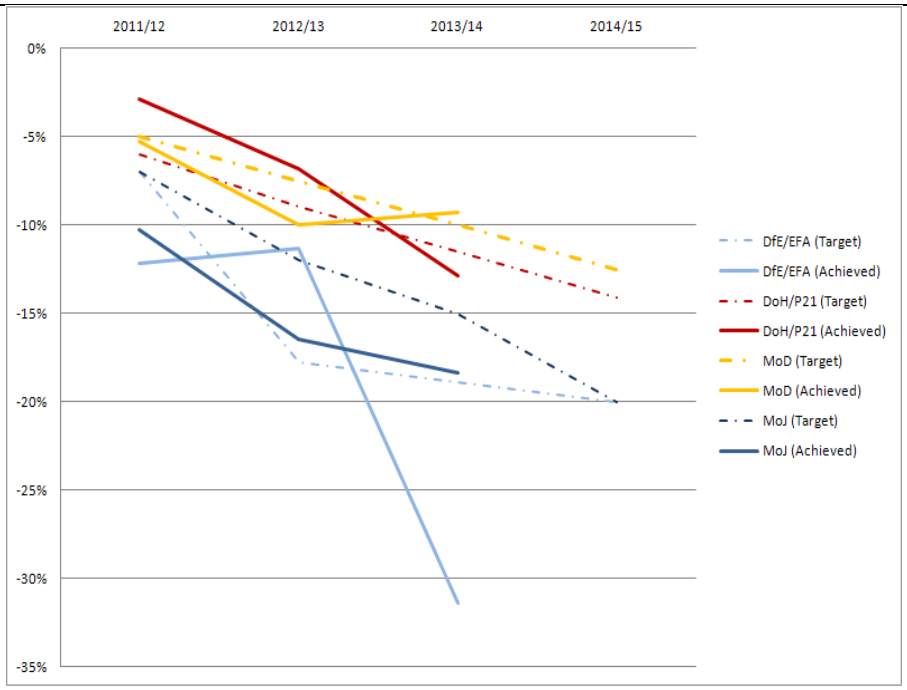
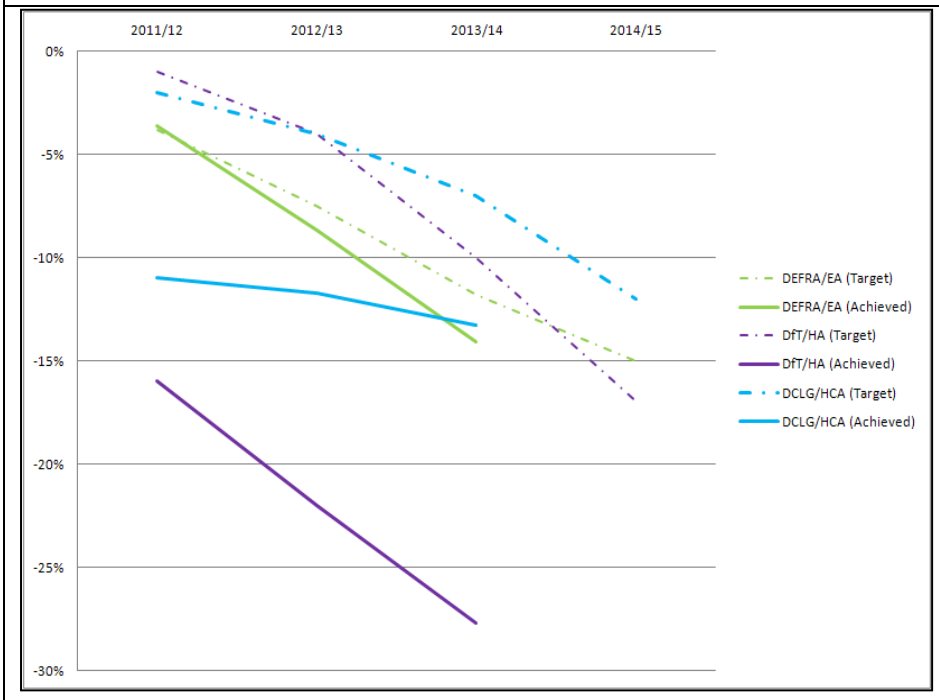


Chart 5 shows that all 3 departments are well ahead of their respective targets, with DfT/HA-MP significantly delivering above target.

Chart 5: DEFRA/EA, DfT/HA-MP, DCLG/HCA Cost Reduction Trajectory Comparator



PART 2: COST BENCHMARK DATA

COST BENCHMARK DATA: INTRODUCTION

Cost benchmarks for government departments and the regulated and wider public sectors are presented in the following sections in the form of charts and tables. The charts present data points relating to a range of projects, while the tables summarise these data points in the form of single point averages and ranges defined by the 20th and 80th percentile thresholds[13]. Typically the charts present the 2009/10 baseline cost distribution, while the tables also provide more recent data for 2010/11, 2011/12, 2012/13 and 2013/14.

The cost levels reported in this document will be influenced by policy imperatives beyond those covered by the Government Construction Strategy.

The department cost benchmark data given in the next sections encompasses the following types of benchmark**:**

Type 1 Benchmarks (Spatial Measures) encompass the most common formats used by clients and industry to benchmark total construction costs, for example: £/m, £/m^2, £/m^3. They are related to *throughput* (quantity) in the sense, for example, of square metres of accommodation delivered by a project.

Type 2 Benchmarks (Functional Measures) encompass a range of more department-specific benchmarks, which address *business outcomes* per £ for example: £/Place; Flood Damage Avoided £/Investment £.

Type 3 Benchmarks address a range of more department-specific benchmarks but where *business outcomes* are related only indirectly to the benchmark, for example: ratio of product cost (or alternatively development cost) to total construction cost.

Type 4 Benchmarks are similar to Type 1 benchmarks but applied at an *elemental throughput* (quantity) level, for example: foundation costs £/m, £/m^2 or £/m^3. They are only applied within this document, when elements taken together represent majority of spend.

[13] The Highways Agency is able to calculate each project cost using probabilistic three point estimating and estimating software with Monte Carlo simulation capability. Based upon the principles of three point estimating the minimum, most likely and maximum cost for every activity is used to the produce the estimates. The Highways Agency therefore provides an 80% confidence probability by reporting the P10, P50 and P90 costs. This could be for individual schemes or a group of schemes or portfolio of schemes. Therefore, for example, setting a project forecast on the basis of a P90 result would indicate a larger contingency than one based on a P50 result.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Cost benchmark data for each organisation are presented in Charts 6 to 26, Tables 5 to 14, 18, 19, and 21 to 24 and also in Annex A below. These are to be read in conjunction with:

- Tables 16, 17, 20 and 24 which provide corresponding notes and commentary; and
- Annex B, which details the cost components included within each department's cost benchmark data.

In general, cost benchmarks are reported in this document at constant prices i.e. those current in 2009/10 i.e. prices in years 2010/11, 2011/12, 2012/13 and 2013/14 are deflated.

The exception to this is where benchmarks are derived from averaging data from a period of more than one year, to ensure either baseline or subsequent annual benchmarks are statistically representative. In these cases, the figures are adjusted to the prices current in the year reported. For example, a 5 year rolling average reported for 2009/10 would be derived from the figures from 2005/06, 2006/07, 2007/08 and 2008/09 adjusted to 2009/10 prices and added to the figures from 2009/10. Where this has been required, it has been highlighted within Tables 13, 14, 18 and 19.

Commonly used terminology within this document:

1) Suppliers offer prices to clients - i.e. their internal costs plus overheads and profit - which on the award of a contract become client costs. Therefore what is in effect the same benchmark is denoted as *cost benchmark data* within this document.
2) **GIFA:** This acronym is used throughout much of the document. It refers to Gross Internal Floor Area and a specific method for ensuring internal floor areas of buildings are measured consistently.
3) **P10 / P50 / P90:** Highways Agency project costs are 3 point estimates modelled to produce P10, P50 and P90 (minimum, most likely and maximum). Therefore, for example, setting a project forecast on the basis of a P90 result would indicate a larger contingency than one based on a P50 result.
4) **BCIS:** Royal Institution of Chartered Surveyors' (RICS) Building Cost Information Service.
5) **PUBSEC / TPI / Location Factor:** Refer to Annex C for more details.
6) **NEC:** New Engineering Contract; a widely used collaborative form of contract.

COST BENCHMARK DATA: COST DISTRIBUTION CHARTS

The charts included within this section present cost data points relating to a range of Government department projects. Typically these charts show the 2009/10 baseline cost distribution against which future progress would be monitored, plotting unit costs against spatial/size characteristics for different project types. Charts showing 2013/14 unit costs against the 2009/10 baseline have also been included.

Though it should be expected that costs will continue to encompass a range, over time the distribution of costs should move down and tighten (as illustrated by Chart 1) as a consequence of implementing the Government Construction Strategy.

In reading these charts, the following should be considered:

1) There are typical patterns where smaller projects tend to have more cost variation than larger projects. This tends to be because smaller projects encompass only some of the range of components that are included within larger projects, while also using different combinations of these components (refer also to Annex B). Smaller projects can also tend to be located on existing sites where there are both physical and operational constraints that drive up cost.

2) Economies of scale can also lead to differences between the unit rates for smaller compared with larger projects, for example, total site establishment may be similar but divided over a larger area for a large project.

3) For brevity, cost data from more than one project type are sometimes plotted on a single chart. Like for like comparisons are therefore possible by comparing data points for the same project type.

4) Unless noted otherwise, all data has been normalised to 2009/10 prices.

5) Typically cost data has been normalised to compensate for regional differences in costs that affect the construction industry as a whole. In some cases data has been provided

instead on a regional basis where this would facilitate more a representative like for like comparisons. For further detail refer to Annex C.

6) Where baseline data has been drawn from multiple years, cost variations may also be partly attributed to other factors such as the ongoing development of construction practices and techniques, or changes in standards.

7) The corresponding single point averages and 20th/80th percentile thresholds given in Tables 5 to 14 and Annex A are included with the charts, since – as highlighted in the introduction to this document – they tend to demonstrate the extent of opportunity available to achieve the 15-20% cost reduction target. These are expressed as follows:

Table 4: Definition of Range T, Range T+B and Range B used in the following cost distribution charts

Reference in Charts	**Definition** (Refer also to **Chart 1** from the Introduction)	**Commentary**
Range T	Percentage difference between the 80th percentile and the average[14], divided by the average.	Range T values greater than 15-20% (marked thus ✓) indicate that consistent cross Government targeting of costs within Range B should be expected to lead to the achievement of the Government Construction Strategy cost reduction target. Clients / suppliers might therefore expect to achieve the required cost reductions by learning from the approaches taken on projects already falling within Range B.
Range T+B	Percentage difference between 80th and 20th percentiles, divided by the average. **Note:** only shown when Range T < 15%.	Range T+B values greater than 15-20% (marked thus ✓) indicate that consistent cross Government targeting of costs towards the 20th percentile threshold should be expected to lead to the achievement of the Government Construction Strategy cost reduction target. Clients / suppliers might therefore only expect to achieve the required gains by adopting new approaches, in addition to learning from approaches

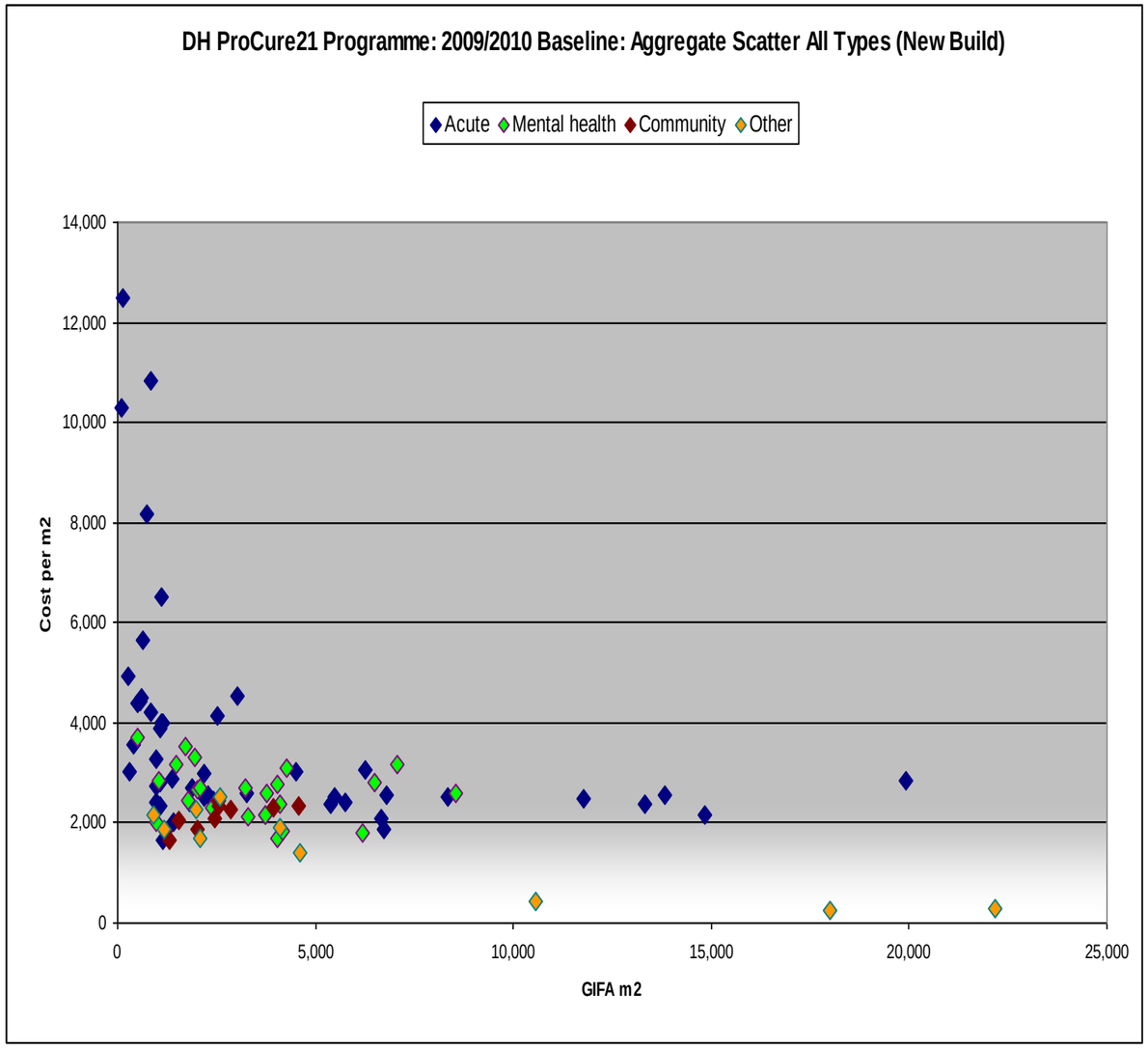
[14] Average when used in Table 3 refers to the single point averages in Tables 5 to 14 and Annex A i.e. typically the arithmetical mean.

Table 4: Definition of Range T, Range T+B and Range B used in the following cost distribution charts

Reference in Charts	**Definition** (Refer also to **Chart 1** from the Introduction)	**Commentary**
		taken on projects already falling within Range B.
Range B	Percentage difference between the average and the 20th percentile, divided by the average.	The consistent cross Government targeting of costs within Range B should be expected to lead to ongoing continuous improvement.

8) Where single project types are shown, the Range T and Range T+B are also provided for the 2012/13 data and comparisons are made with the 2009/10 baseline.

Chart 6: Construction Cost Benchmarks for Department of Health (P21 Framework): New Build 2009/10 Baseline



What this cost data represents: Normalised new build cost data for 2009/10 and earlier years (dating back to the commencement of the Procure21 framework in 2003) for the following project types: Acute, Mental Health, Community and Other.

Corresponding cost data tables: Refer to Tables 5 and Table 16 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

Acute: **80th:** £4440/m^2; **Av:** £3730/m^2; **20th:** £2400/m^2
Range T: 19% ✓

Mental Health: **80th:** £3160/m^2; **Av:** £2620/m^2; **20th:** £2130/m^2
Range T: 21% ✓

Community: **80th:** £2330/m^2; **Av:** £2120/m^2; **20th:** £1880/m^2
Range T: 10%

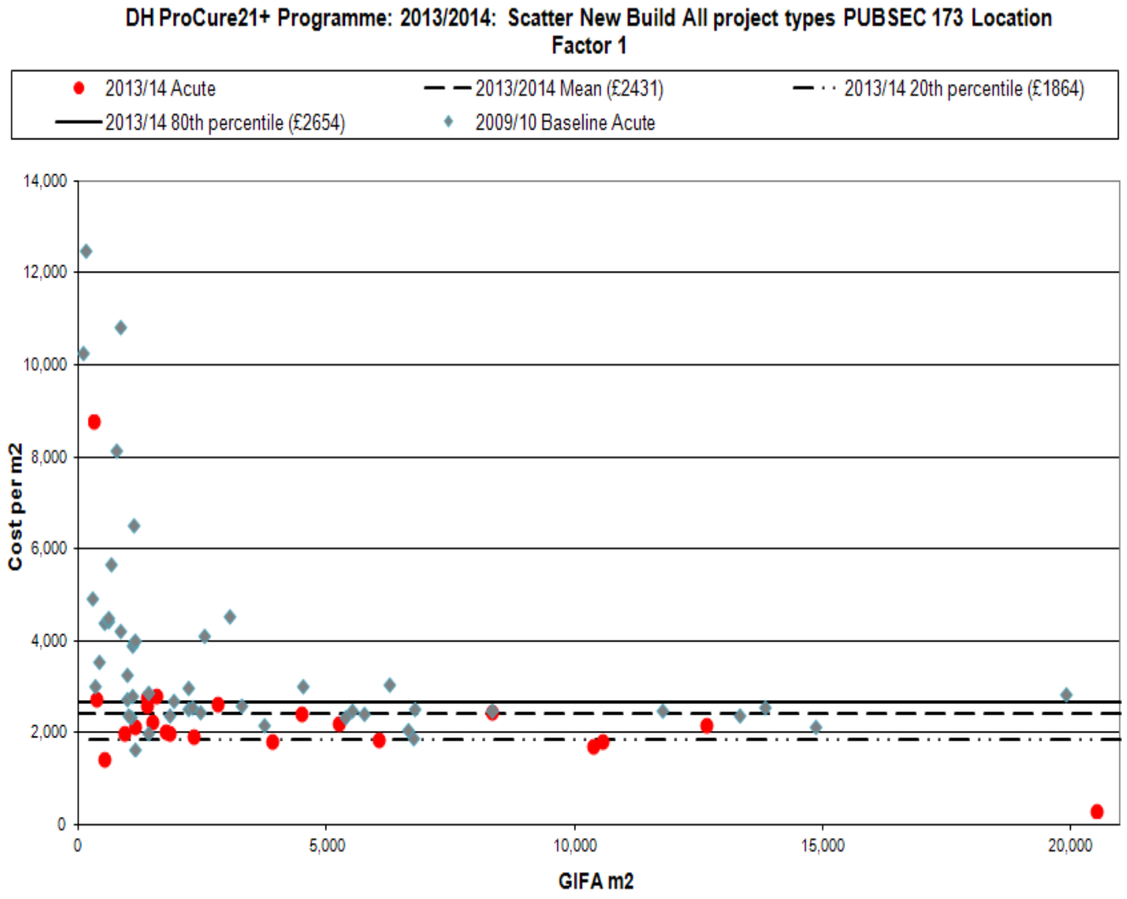
Range T+B: 21% ✓

Other: **80th:** £2200/m^2; **Av:** £1480/m^2; **20th:** £450/m^2
Range T: 49% ✓

Chart specific commentary: Healthcare projects vary considerably in terms of functional content, scope and complexity as reflected in the distribution of costs per m^2.This is particularly noticeable within the 'Acute' project type where variance in project scope and content is the greatest.

In terms of projects at the extremes of the £/m^2 ranges: small projects in terms of GIFA can be highly specialised and serviced, on very restrictive inner city sites, constrained by fully functioning acute hospitals operating 24/7, resulting in buildings with high £/m^2. Similarly other projects can be simple in nature, such as multi storey car parks on greenfield sites with relatively low £/m^2. A very small number of projects can potentially be subject to a combination of several cost significant factors that results in a £/m^2 outside normal expectations.

Chart 7: Construction Cost Benchmarks for Department of Health (P21+ Framework): New Build 2013/14



What this cost data represents: Normalised new build cost data for 2013/14 for the following project type: Acute.

Corresponding cost data tables: Refer to Tables 5 for more details, together with Annex C where the terminology relating to PUBSEC 173 and Location Factor 1 is explained.

2013/14 data: Averages and 20th/80th percentile thresholds:

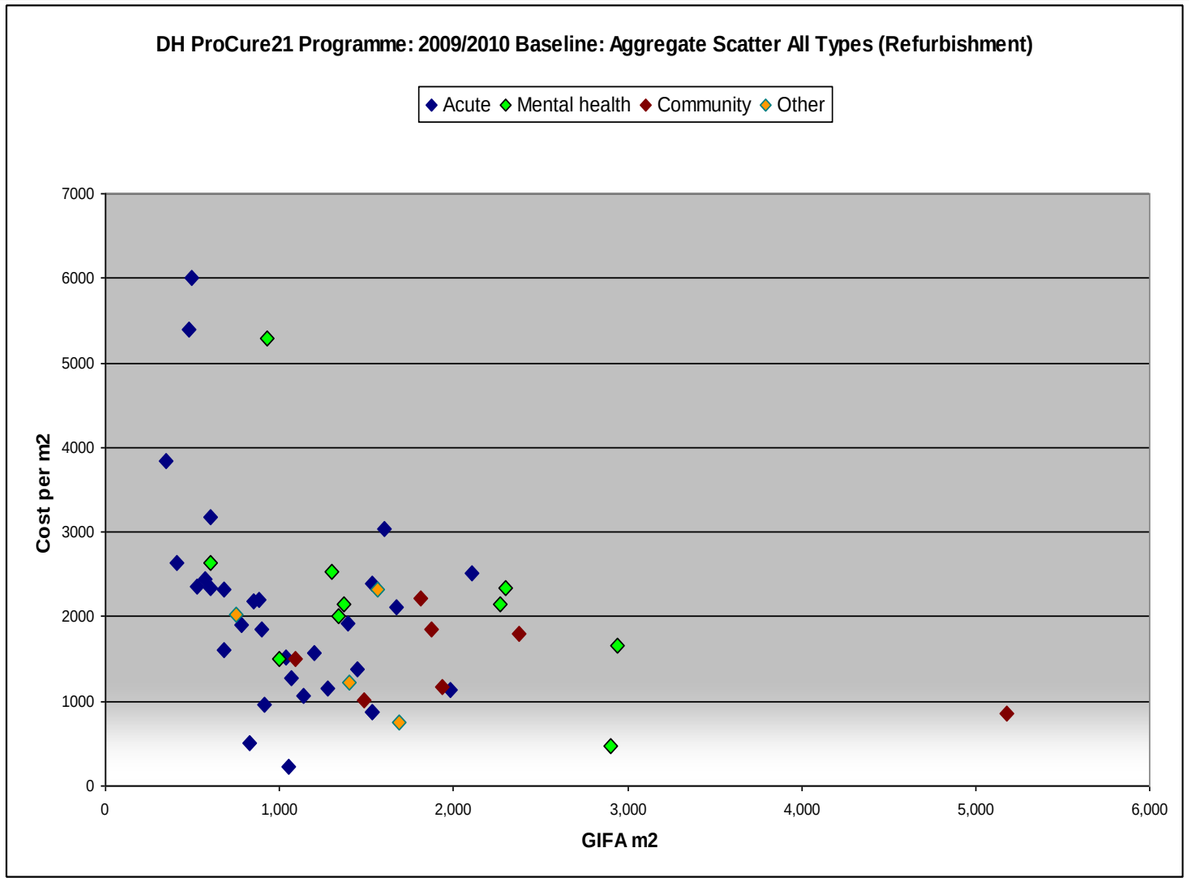
Acute: **80th:** £2654/m^2; **Av:** £2431/m^2; **20th:** £1864/m^2

Range T: 9.2% (**trend:** Range T 10% less than 2009/10 baseline)

Range T+B: 32.5%✓ (**trend:** Range T+B 22% less than 2009/10 baseline)

Chart specific commentary: Project costs (£/m2) for 2013/14 are concentrated within a narrower and cheaper range compared with the 2009/10 baseline. This is a continuing trend from the start of the Government Construction Strategy and reflects the increasing benefits arising as initiatives are adopted by more projects. Refurbishment projects represent more of a challenge to incorporate Government Construction Strategy initiatives due to the additional constraints imposed by the existing building; hence savings against the baseline are greater for new build than refurbishment projects.

Chart 8: Construction Cost Benchmarks for Department of Health (P21 Framework): Refurbishment 2009/10 Baseline



What this cost data represents: Normalised refurbishment cost data for 2009/10 and earlier years (dating back to the commencement of the Procure21 framework in 2003) for the following project types: Acute, Mental Health, Community and Other.

Corresponding cost data tables: Refer to Tables 5 and Table 16 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

Acute: **80th:** £2520/m2; **Av:** £2090/m^2; **20th:** £1140/m^2
Range T: 21% ✓

Mental Health: **80th:** £2640/m^2; **Av:** £2270/m^2; **20th:** £1650/m^2
Range T: 16% ✓

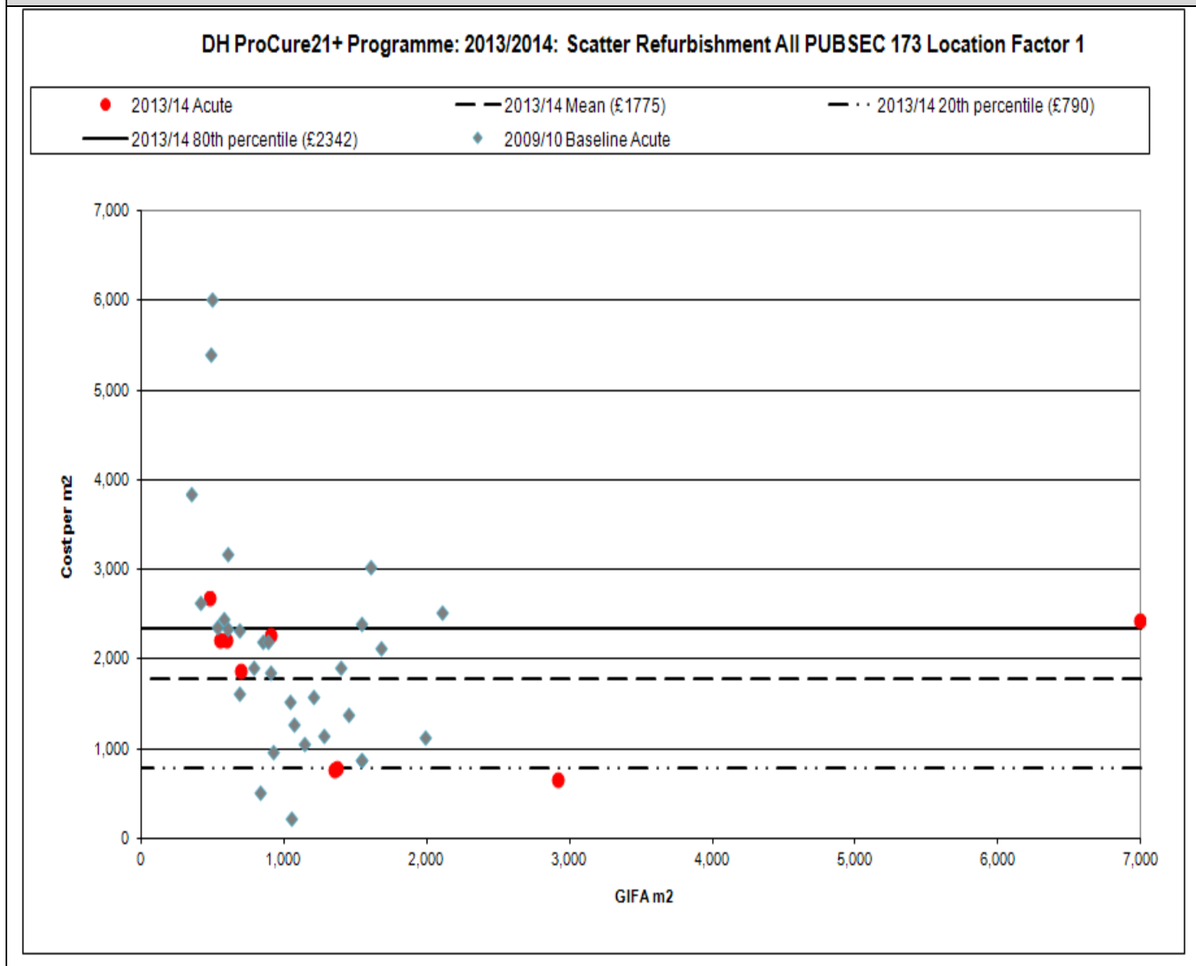
Community: **80th:** £1860/m^2; **Av:** £1490/m^2; **20th:** £1010/m^2
Range T: 25% ✓

Other: **80th:** £2000/m^2; **Av:** £1580/m^2; **20th:** £1220/m^2
Range T: 27% ✓

Chart specific commentary: Healthcare projects vary considerably in terms of functional content, scope and complexity as reflected in the distribution of costs per m^2.This is particularly noticeable within the 'Acute' project type where variance in project scope and content is the greatest.

In terms of projects at the extremes of the £/m^2 ranges: small projects in terms of GIFA can be highly specialised and serviced, on very restrictive inner city sites, constrained by fully functioning acute hospitals operating 24/7, resulting in buildings with high £/m^2. A very small number of projects can potentially be subject to a combination of several cost significant factors that results in a £/m^2 outside normal expectations.

Chart 9: Construction Cost Benchmarks for Department of Health (P21+ Framework): Refurbishment 2013/14



What this cost data represents: Normalised refurbishment cost data for 2013/14 for the following project type: Acute.

Corresponding cost data tables: Refer to Tables 5 for more details, together with Annex C where the terminology relating to PUBSEC 173 and Location Factor 1 is explained.

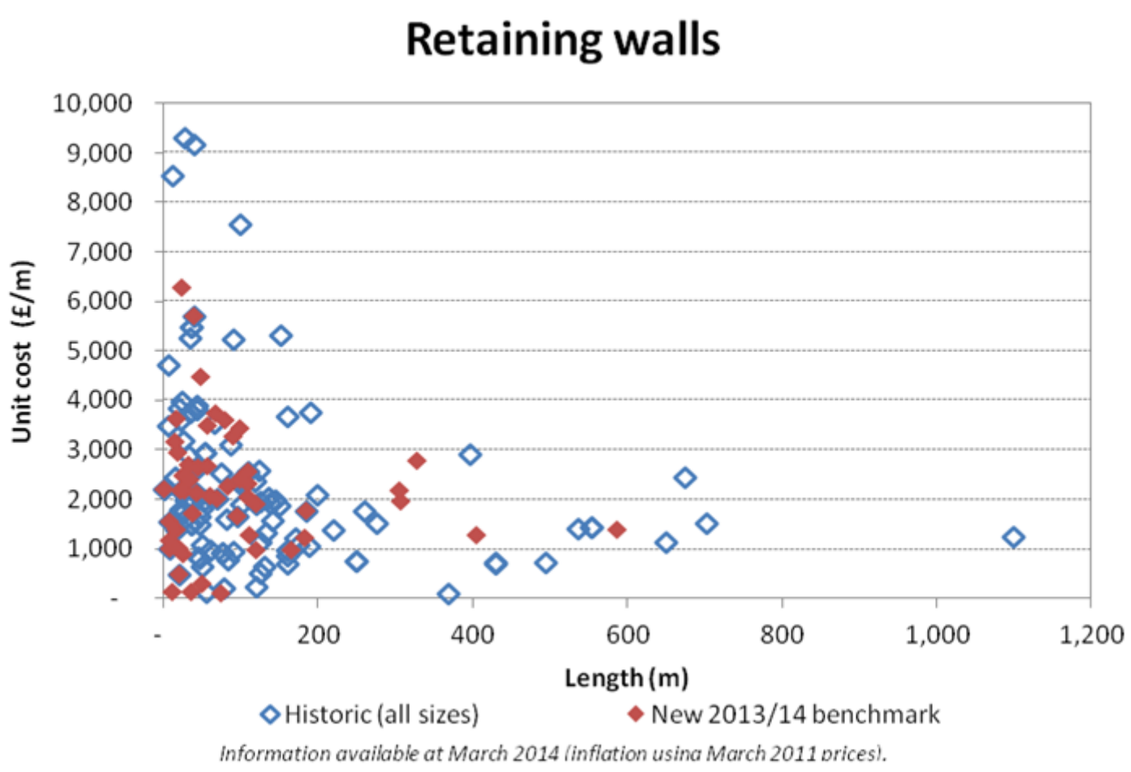
2013/14 data: Averages and 20th/80th percentile thresholds:

Acute: **80th:** £2342/m^2; **Av:** £1775/m^2; **20th:** £790/m^2

Range T: 31.9%✓ (**trend:** Range T 11% more than 2009/10 baseline)

Chart specific commentary: Project costs (£/m2) for refurbishment represent more of a challenge to incorporate Government Construction Strategy initiatives due to the additional constraints imposed by the existing building. Work will be undertaken going forward on how these initiatives can be more readily transferred to refurbishment projects.
Project costs for 2013/14 are concentrated within a narrower range than the 2009/10 baseline but valid comparisons are restricted by the small number of projects within this project type in 2013/14.

Chart 10: Construction Cost Benchmarks for DEFRA/Environment Agency: Retaining Walls



What this cost data represents: Normalised new build cost data for retaining walls at constant March 2011 prices and collected over the last 10 years addressing: a) last 5 years (2006/07 to 2011/12) for retaining walls < 2.1m high; b) all retaining wall sizes for last 5 years and before (includes retaining walls < 2.1m from before 2006/07).

Corresponding cost data tables: Refer to Tables 6 and Table 16 for more details.

Baseline data: Averages and 20th/80th percentile thresholds (5 year rolling sample):

80th: £3784/m; **Av:** £2802/m; **20th:** £1386/m

Range T: 35% ✓

Note: Data given in 2011/12 prices.

2013/14 data: Averages and 20th/80th percentile thresholds:

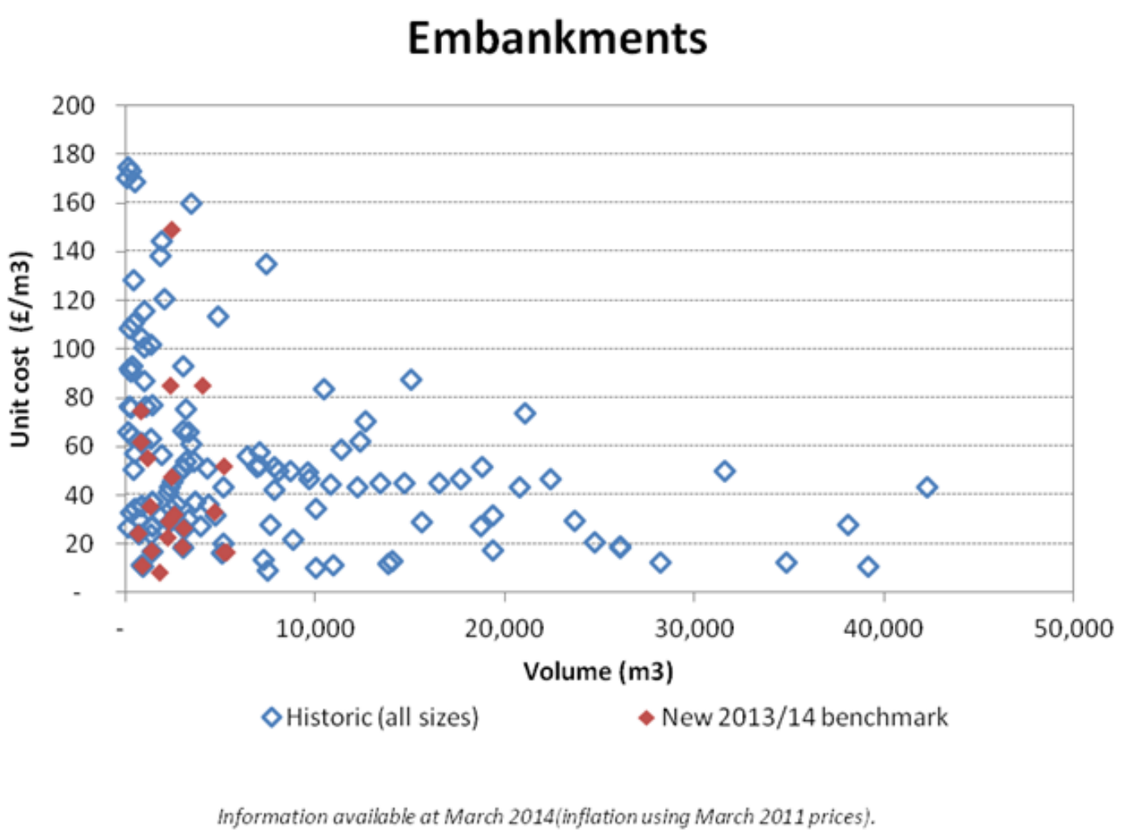
80th: £2928/m; **Av:** £2176/m; **20th:** £1190/m

Range T: 34.6%✓ (**trend:** Range T = to baseline)

Chart specific commentary: The costs of retaining walls vary particularly due to:

- site location: some walls are in very restricted locations and may require a lot of changes in direction;
- planning driven finish requirements (for instance whether brick or stone clad);
- distance of site from material sources;

Chart 11: Construction Cost Benchmarks for DEFRA/Environment Agency: Embankments



Information available at March 2014(inflation using March 2011 prices).

What this cost data represents: Normalised new build cost data for embankments at constant March 2011 prices and collected over the last 10 years addressing: a) last 5 years (2006/07 to 2011/12) for embankments 500 - 5000 m^3; b) all embankment sizes for last 5 years and before (includes embankments 500 – 5000 m^3 from before 2006/07).

Corresponding cost data tables: Refer to Tables 6 and Table 16 for more details.

Baseline data: Averages and 20th/80th percentile thresholds (5 year rolling sample):

80th: £66/m^3; **Av:** £46/m^3; **20th:** £23/m^3

Range T: 43% ✓

Note: Data given in 2011/12 prices.

2013/14 data: Averages and 20th/80th percentile thresholds:

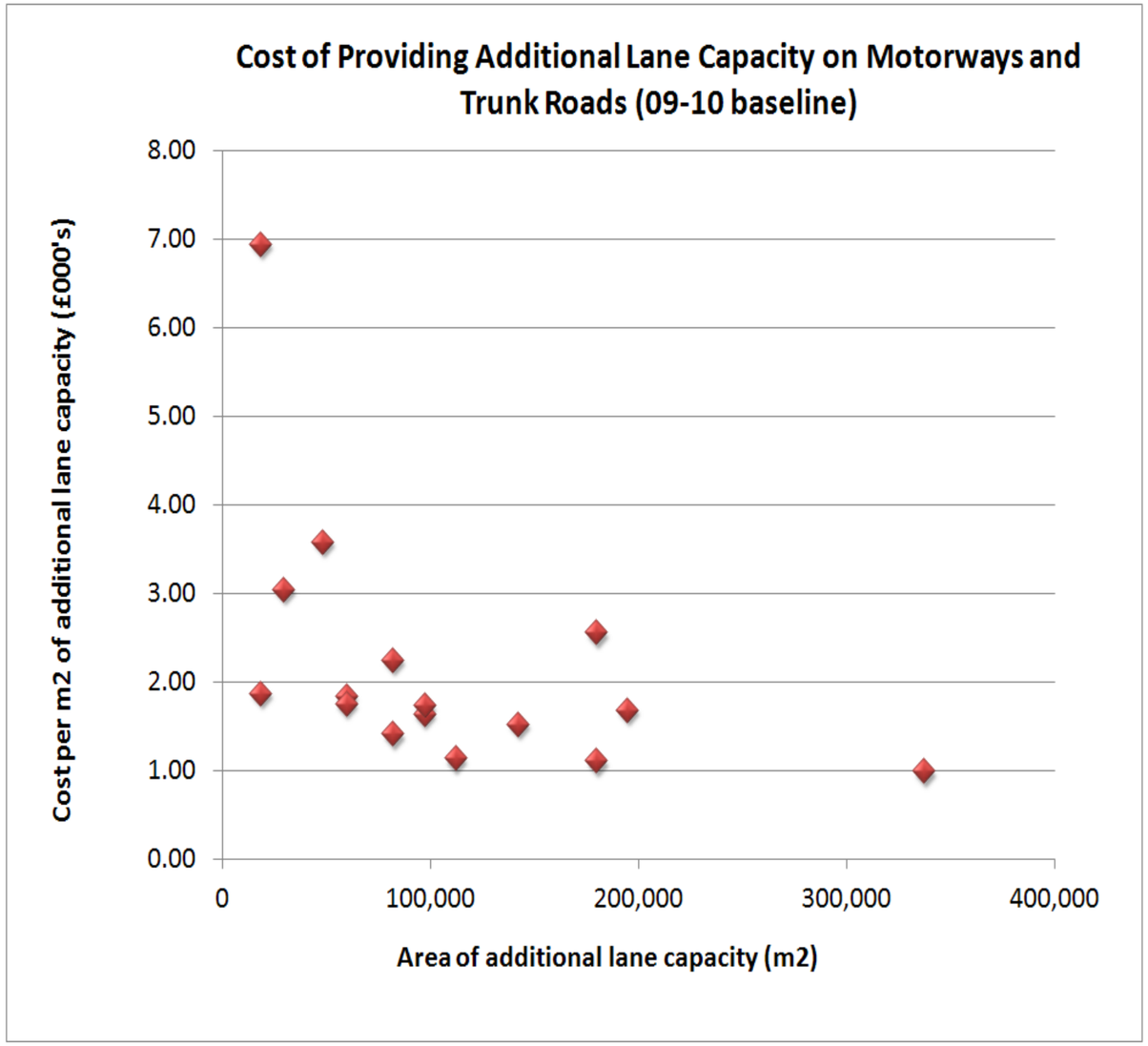
80th: £62/ m^3; **Av:** £43/ m^3; **20th:** £17/ m^3

Range T: 44% ✓ (**trend:** Range T 1% more than baseline)

Chart specific commentary: The costs of embankments vary particularly due to:

- distance of site from material sources: on some sites it is possible to source embankment fill material from on-site borrow pits, elsewhere this may not be possible;
- ease of access to the site;

Chart 12: Construction Cost Benchmarks for DfT/Highways Agency: Trunk Roads and Managed Motorways (2009/10 Baseline)



What this cost data represents: Normalised new build P50 cost data for constructing a m^2 of each additional lane of trunk road or managed motorway. The figures represent the total cost to the client i.e. inclusive of design, client costs and any client retained risk.

Corresponding cost data tables: Refer to Tables 7 and Table 16 for more details.

Note: Chart is shown in 2009/10 constant prices and does not show points for 2010/11 on account of insufficient data.

Baseline data: Averages and P10/P90 thresholds:

Trunk Road Improvement**: P90:** £3.0K/m^2 ; **Av (P50):** £2.6K/m^2 ; **P10:** £2.1K/m^2

Range T (equivalent): 15% ✓

Range T+B (equivalent): 35% ✓

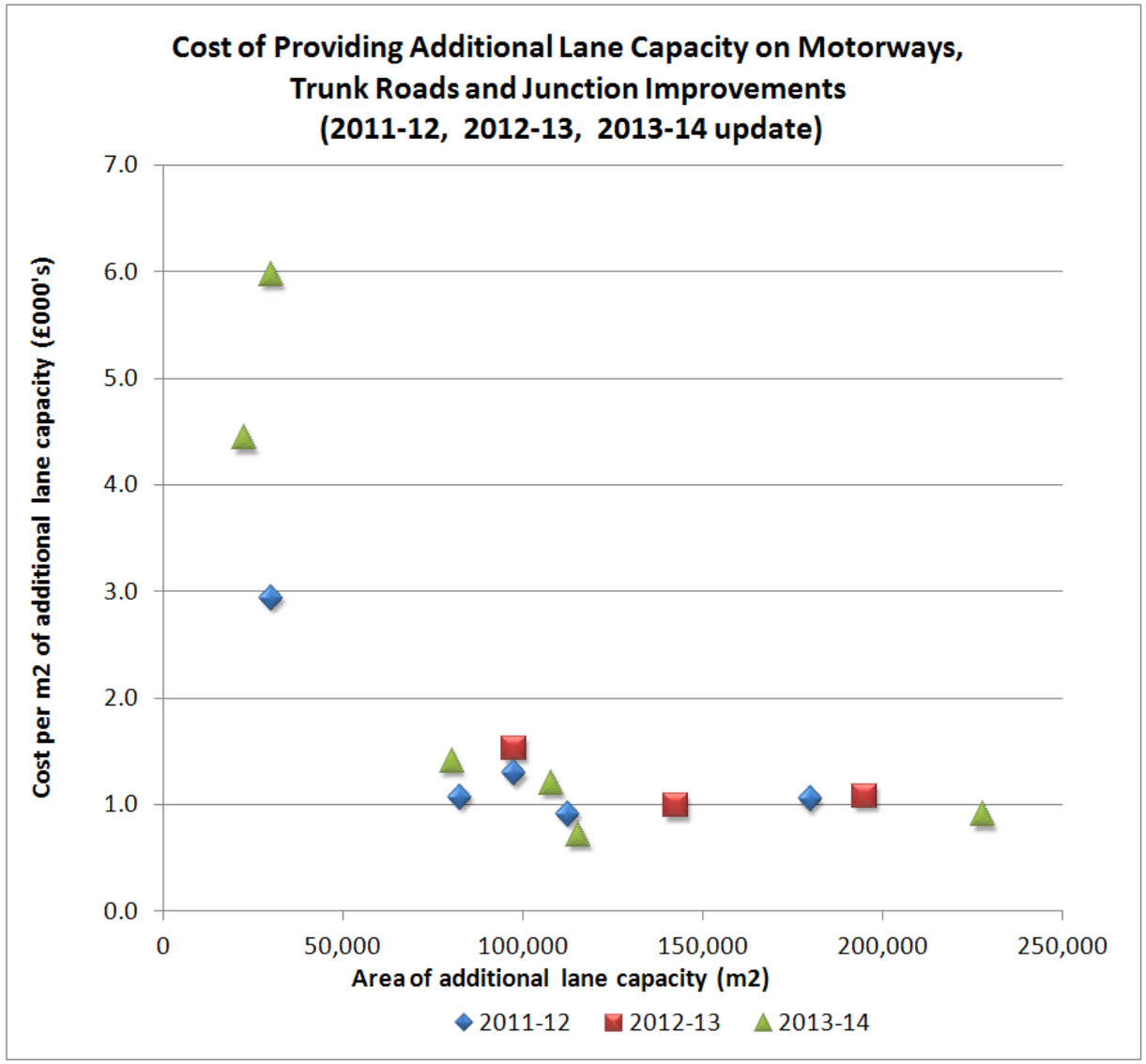
Managed Motorways**: P90:** £2.1K/m^2 ; **Av (P50):** £1.7K/m^2 ; **P10:** £1.3K/m^2

Range T (equivalent): 24% ✓

Chart specific commentary:

There are some large peaks in the data due to the complex nature of particular projects. For example some short projects incorporating complex and/or many structures will have a very high £/m^2.

Chart 13: Construction Cost Benchmarks for DfT/Highways Agency: Trunk Roads and Managed Motorways (2013/14)



What this cost data represents: Normalised new build P50 cost data for constructing a m^2 of each additional lane of trunk road or managed motorway. The figures represent the total cost to the client, i.e. inclusive of design, client costs and any client retained risk.

Corresponding cost data tables: Refer to Tables 7 and Table 16 for more details.

2013/14 data: Averages and P10/P90 thresholds:

Trunk Road Improvement**: P90:** £5.2K/m^2 ; **Av (P50):** £4.7K/m^2 ; **P10:** £4.1K/m^2

Range T (equivalent): 10.6% (**trend:** Range T 5% less than baseline)

Range T+B (equivalent): 23%✓ (**trend:** Range T+B 12% less than baseline)

Managed Motorways**: P90:** £1.2K/m^2 ; **Av (P50):** £1.1K/m^2 ; **P10:** £0.9K/m^2

Range T (equivalent): 9.1% (**trend:** Range T1 5% less than baseline)

Note: Data given in 2009/10 constant prices

Chart specific commentary:

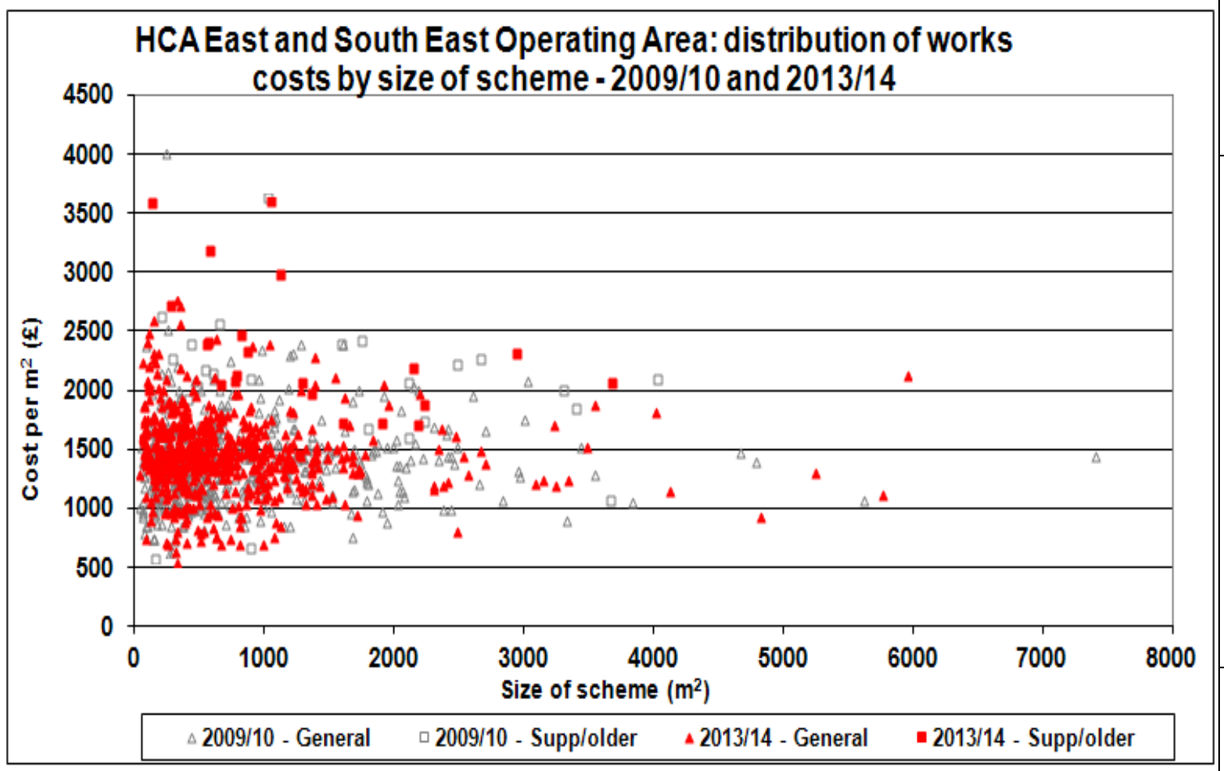
Large peaks in the data can be due to the complex nature of particular projects. For example some short projects incorporating complex and/or many structures will have a very high £/m^2.

2012/13 Managed Motorways schemes were 2 no. DBFO All Lane Running (ALR)

2013/14 Managed Motorways schemes are 4 no. All Lane Running,
2 no Junction Improvement schemes these are complex projects

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Chart 14: Construction Cost Benchmarks for DCLG/Homes and Communities Agency: New Build (East and South East HCA Operating Area)



What this cost data represents: Normalised new build cost data for 2009/10 for houses and flats of the following project types: For Rent, For LCHO (Low Cost Home Ownership), For Rent/General Needs and For Rent/Supported Housing.

Corresponding cost data tables: Refer to Tables 16 and 35 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

For Rent: **80th:** £1728/m²; **Av:** £1502/m2; **20th:** £1265/m²
Range T: 15% ✓

Range T+B: 30.8%✓

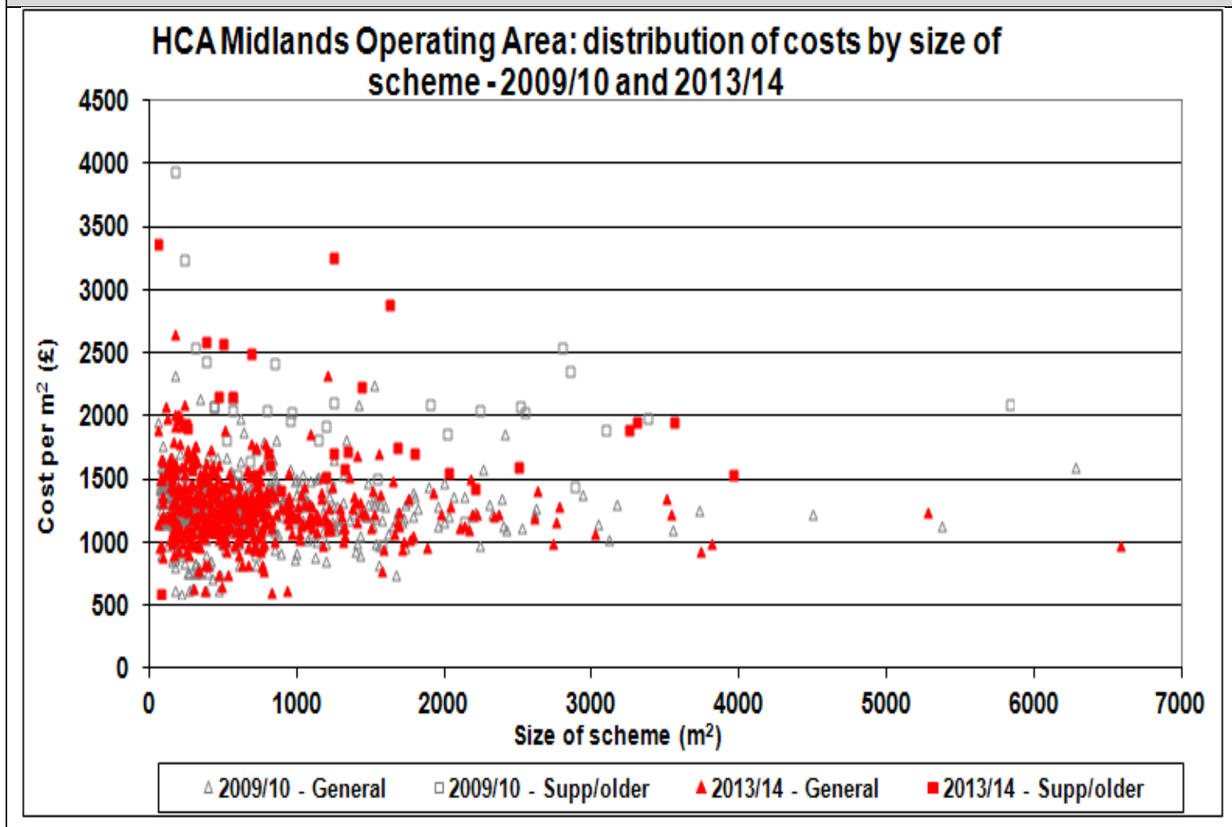
For LCHO: **80th:** £1671/m²; **Av:** £1414/m²; **20th:** £1208/m²
Range T: 18% ✓

For Rent/General Needs: **80th:** £1693/m²; **Av:** £1448/m²; **20th:** £1250/m²
Range T: 16.9% ✓

For Rent/Supported Housing: **80th:** £2732/m²; **Av:** £2166/m²; **20th:** £1777/m²
Range T: 26% ✓

Chart specific commentary: Affordable housing projects will vary in size (number of homes), location (urban, rural), the balance of building type (e.g. houses, low rise flats, high rise flats), unit size, and the complexity of construction (greenfield, urban infill). Each of these factors will partially explain construction cost variation, with site and type choices driven by local needs and priorities. The greatest opportunity for construction cost reduction is represented by the larger projects, which also represent a significant proportion of expenditure.

Chart 15: Construction Cost Benchmarks for DCLG/Homes and Communities Agency: New Build (Midlands HCA Operating Area)



What this cost data represents: Normalised new build cost data for 2009/10 for houses and flats of the following project types: For Rent, For LCHO (Low Cost Home Ownership), For Rent/General Needs and For Rent/Supported Housing.

Corresponding cost data tables: Refer to Tables 16 and 36 for more details.

Baseline data: Averages and 20th / 80th percentile thresholds:

For Rent: **80th:** £1534/m2; **Av:** £1319/m2; **20th:** £1105/m^2
Range T: 16.3% ✓

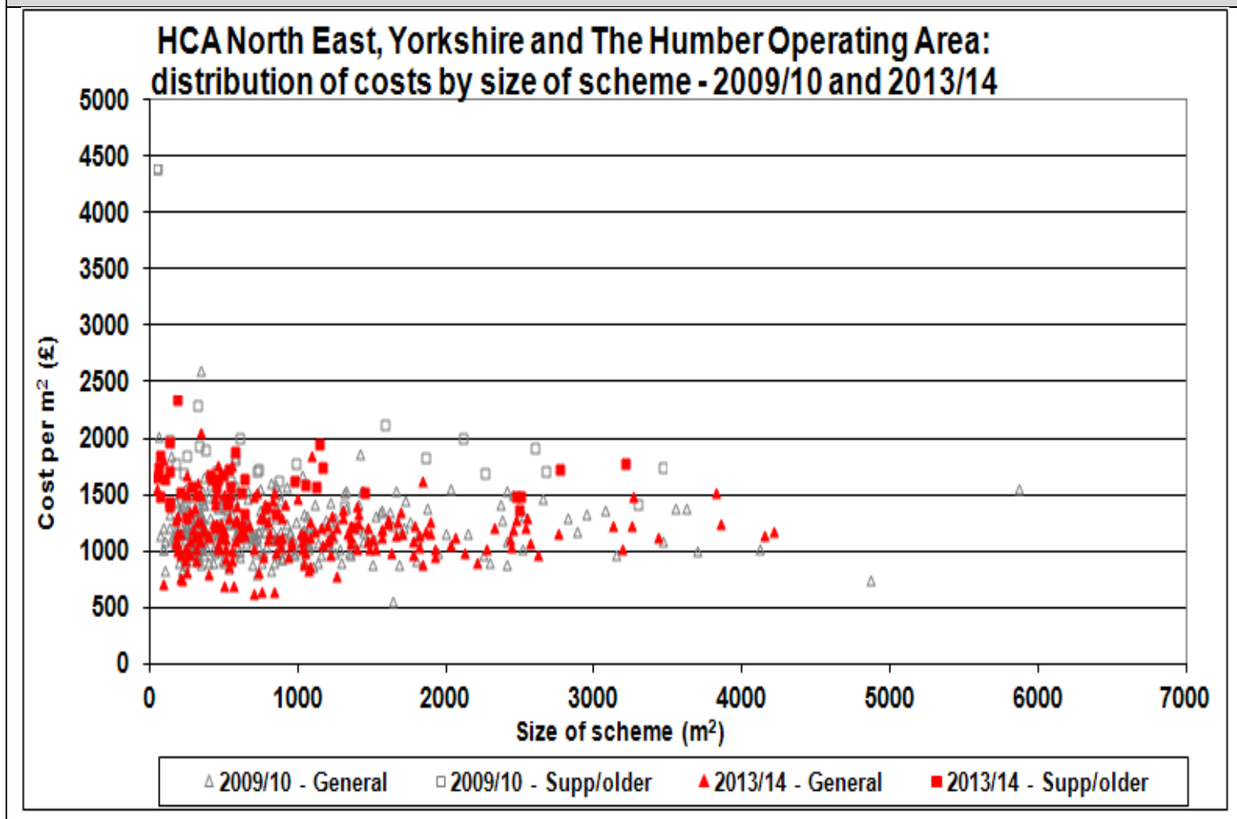
For LCHO: **80th:** £1513/m^2; **Av:** £1271/m^2; **20th:** £1059/m^2
Range T: 19% ✓

For Rent/General Needs: **80th:** £1452/m^2; **Av:** £1244/m^2; **20th:** £1097/m^2
Range T: 16.7% ✓

For Rent/Supported Housing: **80th:** £2515/m^2; **Av:** £1855/m^2; **20th:** £1546/m^2
Range T: 35.6% ✓

Chart specific commentary: Affordable housing projects will vary in size (number of homes), location (urban, rural), the balance of building type (e.g. houses, low rise flats, high rise flats), unit size, and the complexity of construction (greenfield, urban infill). Each of these factors will partially explain construction cost variation, with site and type choices driven by local needs and priorities. The greatest opportunity for construction cost reduction is represented by the larger projects, which also represent a significant proportion of expenditure.

Chart 16: Construction Cost Benchmarks for DCLG/Homes and Communities Agency: New Build (North East, Yorkshire and the Humber HCA Operating Area)



What this cost data represents: Normalised new build cost data for 2009/10 for houses and flats of the following project types: For Rent, For LCHO (Low Cost Home Ownership), For Rent/General Needs and For Rent/Supported Housing.

Corresponding cost data tables: Refer to Tables 16 and 37 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

For Rent: **80th:** £1510/m²; **Av:** £1230/m2; **20th:** £1052/m²
Range T: 22.8% ✓

For LCHO: **80th:** £1497/m²; **Av:** £1232/m2; **20th:** £1025/m²
Range T: 21.5% ✓

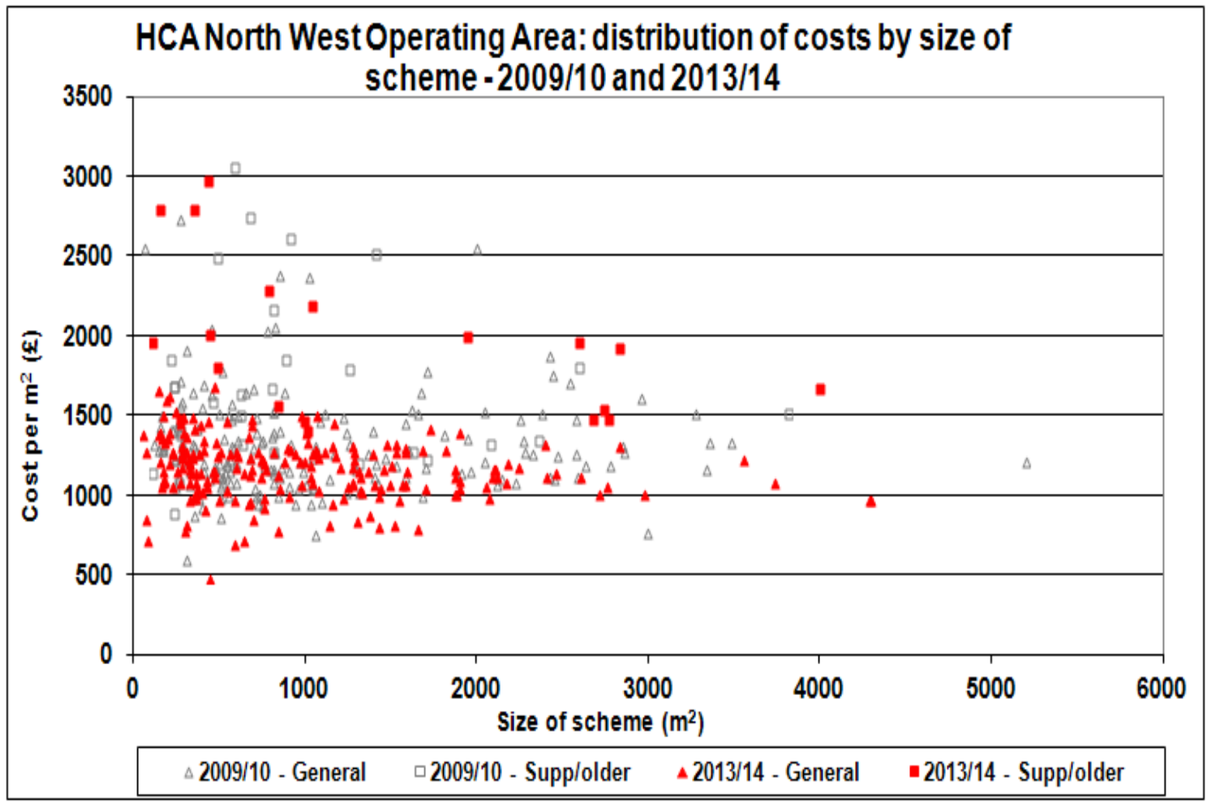
For Rent/General Needs: **80th:** £1363/m²; **Av:** £1183/m2; **20th:** £1032/m²
Range T: 15.2% ✓

For Rent/Supported Housing: **80th:** £1762/m²; **Av:** £1613/m²; **20th:** £1503/m²
Range T: 9.2%

Range T+B: 16% ✓

Chart specific commentary: Affordable housing projects will vary in size (number of homes), location (urban, rural), the balance of building type (e.g. houses, low rise flats, high rise flats), unit size, and the complexity of construction (green field, urban infill). Each of these factors will partially explain construction cost variation, with site and type choices driven by local needs and priorities. The greatest opportunity for construction cost reduction is represented by the larger projects, which also represent a significant proportion of expenditure.

Chart 17: Construction Cost Benchmarks for DCLG/Homes and Communities Agency: New Build (North West HCA Operating Area)



What this cost data represents: Normalised new build cost data for 2009/10 for houses and flats of the following project types: For Rent, For LCHO (Low Cost Home Ownership), For Rent/General Needs and For Rent/Supported Housing.

Corresponding cost data tables: Refer to Tables 16 and 38 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

For Rent: **80th:** £1494/m²; **Av:** £1257/m²; **20th:** £1062/m²
Range T: 18.9% ✓

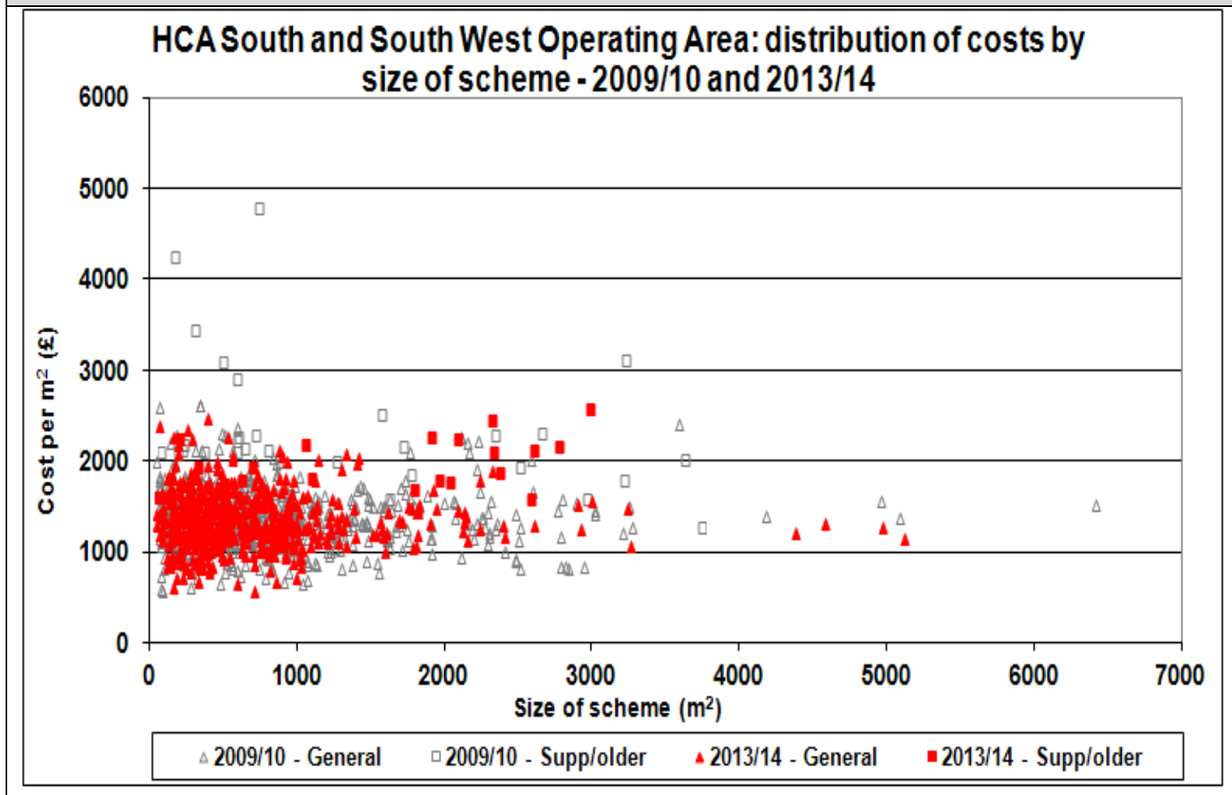
For LCHO: **80th:** £1468/m²; **Av:** £1170/m²; **20th:** £1004/m²
Range T: 25.5% ✓

For Rent/General Needs: **80th:** £1418/m²; **Av:** £1195/m²; **20th:** £1050/m²
Range T: 18.7% ✓

For Rent/Supported Housing: **80th:** £2786/m²; **Av:** £1785/m²; **20th:** £1481/m²
Range T: 56% ✓

Chart specific commentary: Affordable housing projects will vary in size (number of homes), location (urban, rural), the balance of building type (e.g. houses, low rise flats, high rise flats), unit size, and the complexity of construction (green field, urban infill). Each of these factors will partially explain construction cost variation, with site and type choices driven by local needs and priorities. The greatest opportunity for construction cost reduction is represented by the larger projects, which also represent a significant proportion of expenditure.

Chart 18: Construction Cost Benchmarks for DCLG/Homes and Communities Agency: New Build (South and South West HCA Operating Area)



What this cost data represents: Normalised new build cost data for 2009/10 for houses and flats of the following project types: For Rent, For LCHO (Low Cost Home Ownership), For Rent/General Needs and For Rent/Supported Housing.

Corresponding cost data tables: Refer to Tables 16 and 39 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

For Rent: **80th:** £1633/m²; **Av:** £1411/m²; **20th:** £1124/m²;
Range T: 15.7% ✓

For LCHO: **80th:** £1618/m²; **Av:** £1386/m²; **20th:** £1159/m²;
Range T: 16.7% ✓

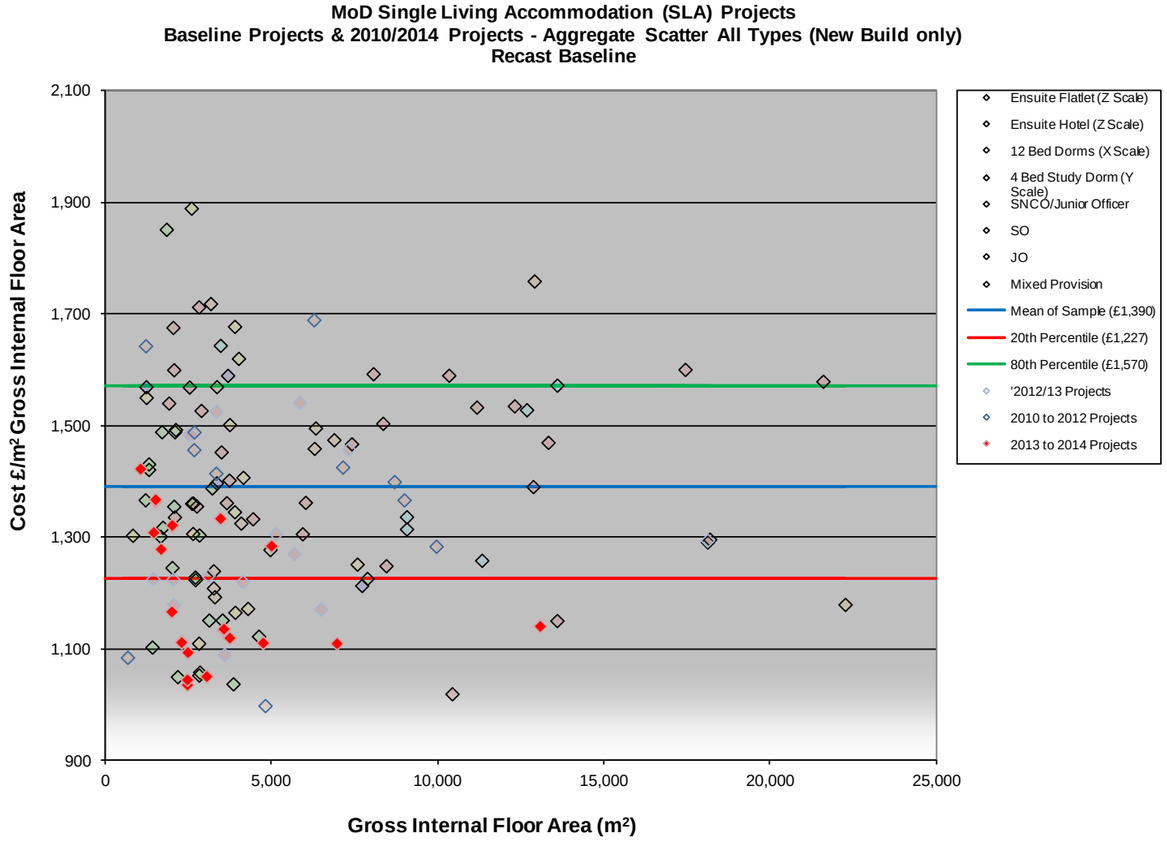
For Rent/General Needs: **80th:** £1594/m²; **Av:** £1341/m²; **20th:** £1106/m²;
Range T: 18.9% ✓

For Rent/Supported Housing: **80th:** £2259/m²; **Av:** £2059/m²; **20th:** £1720/m²;
Range T: 9.7%

Range T&B: 25.7%✓

Chart specific commentary: Affordable housing projects will vary in size (number of homes), location (urban, rural), the balance of building type (e.g. houses, low rise flats, high rise flats), unit size, and the complexity of construction (green field, urban infill). Each of these factors will partially explain construction cost variation, with site and type choices driven by local needs and priorities. The greatest opportunity for construction cost reduction is represented by the larger projects, which also represent a significant proportion of expenditure.

Chart 19: Construction Cost Benchmarks for Ministry of Defence: Single Living Accommodation



What this cost data represents: Normalised new build cost data for all Single Living Accommodation projects let since 2002/03. The sample is split between generic types of accommodation, or – where a mixture of accommodation has been contracted as a single package – a 'Mixed Provision' category.

Corresponding cost data tables: Refer to Tables 9 and 17 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

80th: £1570/m²; **Av:** £1390/m²; **20th:** £1227/m²

Range T: 13%

Range T+B: 25% ✓

Range B: 12%

2013/14 data: Averages and 20th/80th percentile thresholds:

80th: £1323/m²; **Av:** £1200/m²; **20th:** £1111/m²

Range T: 10% (**trend:** Range T 3% more than baseline)

Range T+B: 18% ✓ (**trend:** Range T+B 1% less than baseline) ✓

Range B: 7%

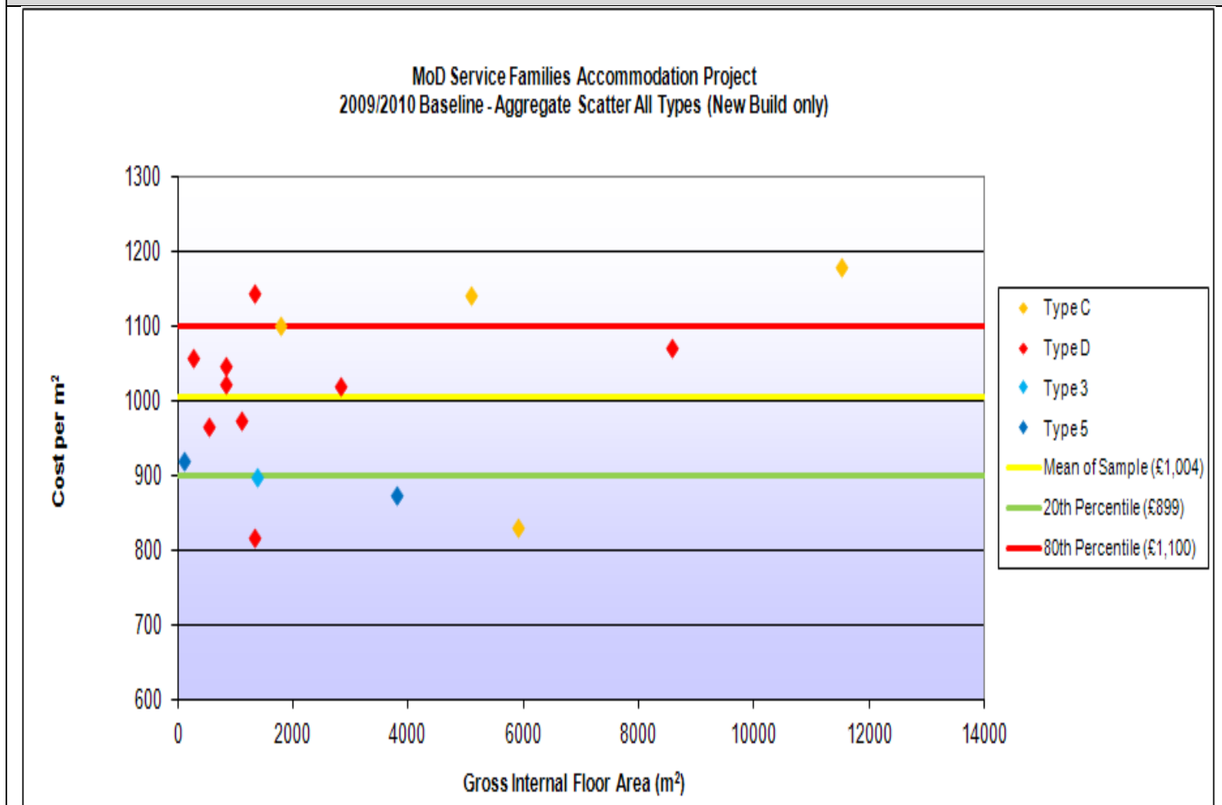
Chart specific commentary: The costs of the various types of accommodation tend to scatter and cluster in slightly different ways, which is generally down to the varying proportions of wet/dry areas per bed. For example Z Scale Flatlet and Hotel formats have individual ensuite provision to each bedroom, whereas X and Y Scales have beds configured in 4 or 12 person dormitories with communal washroom facilities.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have now been excluded for the purpose of this exercise. Going forward, data uploaded to the BCIS database – whilst including the overall value of external works – will exclude such values from the £/m² Gross Internal Floor Area (GIFA). This will enable closer scrutiny of comparable building costs and open up comparison at an elemental level.

The influence of the GIFAs on costs is somewhat lower than would be expected for works procured under individual contracts.

See Table 17 for commentary on revisions to the Baseline.

Chart 20: Construction Cost Benchmarks for Ministry of Defence: Service Families Accommodation (SFA)



What this cost data represents: Normalised new build cost data for all Service Families Accommodation projects since June 2008. The sample is split between generic types of accommodation according to JSP Scales.

Normalised new build cost data (£/m^2) at constant 2009/10 prices for 418 new build SFA houses on 5 projects. All costs are based on BCIS All-in Tender Price Index of 214 and Location Factor of 100 and are as detailed within the agreed Target Price at Contract Award.

Benchmarks are "Building Only" – excluding external works provision, cost and areas of garages (some properties provide this and others do not). This methodology corresponds with that used in calculating and utilising the SLA Baseline Benchmarks previously published.

Corresponding cost data tables: Refer to Tables 10 and 17 for more details.

Baseline data: Averages and 20th/80th percentile thresholds:

80th: £1100/m^2; **Av:** £1004/m^2; **20th:** £899/m^2

Range T: 9.6%

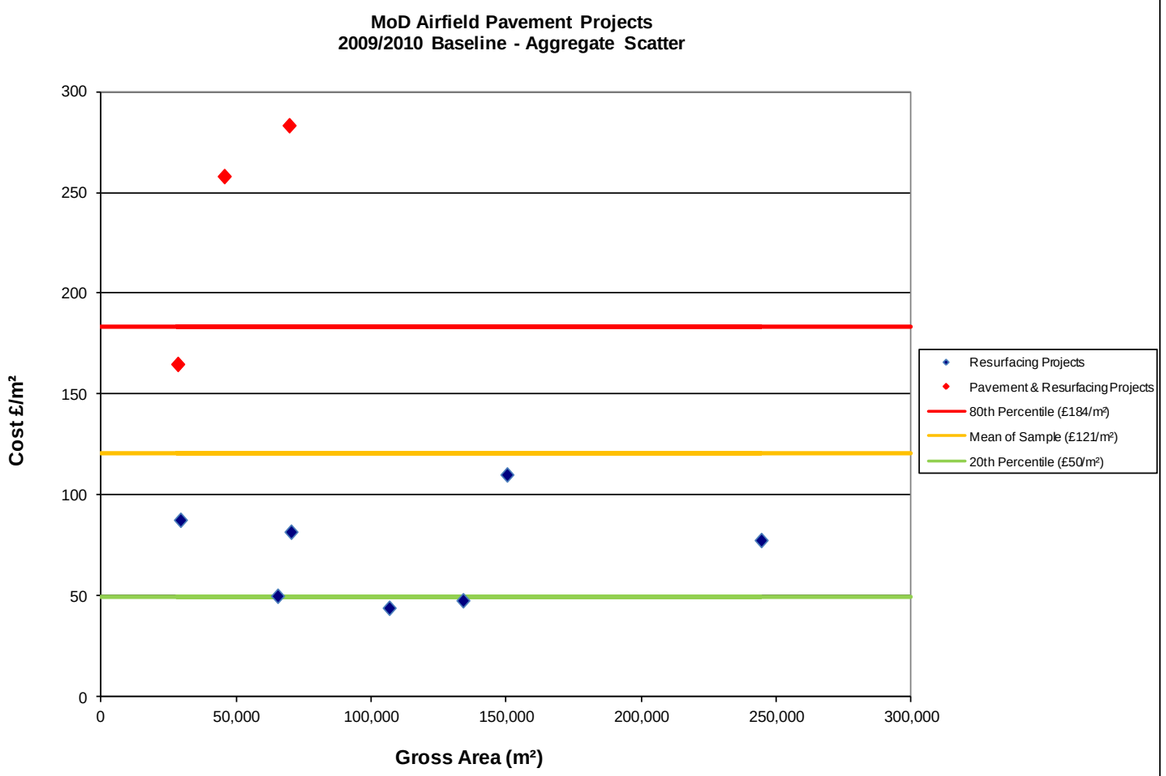
Range T+B: 20% ✓

Chart specific commentary:

The costs of the various types of accommodation tend to scatter and cluster in slightly different ways, which is generally down to the size of accommodation provided.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have now been excluded for the purpose of this exercise. Going forward, data uploaded to the BCIS database – whilst including the overall value of external works – will exclude such values from the £/m^2 Gross Internal Floor Area (GIFA). This will enable closer scrutiny of comparable building costs and open up comparison at an elemental level. The cost and area of garages have also been excluded as some properties provide this and others do not.

Chart 21: Construction Cost Benchmarks for Ministry of Defence: Airfield Pavements



What this cost data represents: Normalised cost data for all Airfield Pavement projects since June 2004. The sample is split between pavement and resurfacing projects and resurfacing projects only.

Normalised cost data (£/m^2) is at constant 2009/10 prices for 10 projects.

Benchmarks are All In costs. This methodology varies with that used in calculating and utilising the SLA Baseline Benchmarks previously published, where external works, design fees and their proportion of associated on-costs were excluded in an effort to provide more meaningful 'Building Only' comparators.

Corresponding cost data tables: Refer to Tables 11 and 17 for more details.

Baseline data: Averages and 20^{th}/80^{th} percentile thresholds:

Resurfacing **80^{th}:** £87/m^2; **Av:** £71/m^2; **20^{th}:** £48/m^2

Range T: 23% ✓

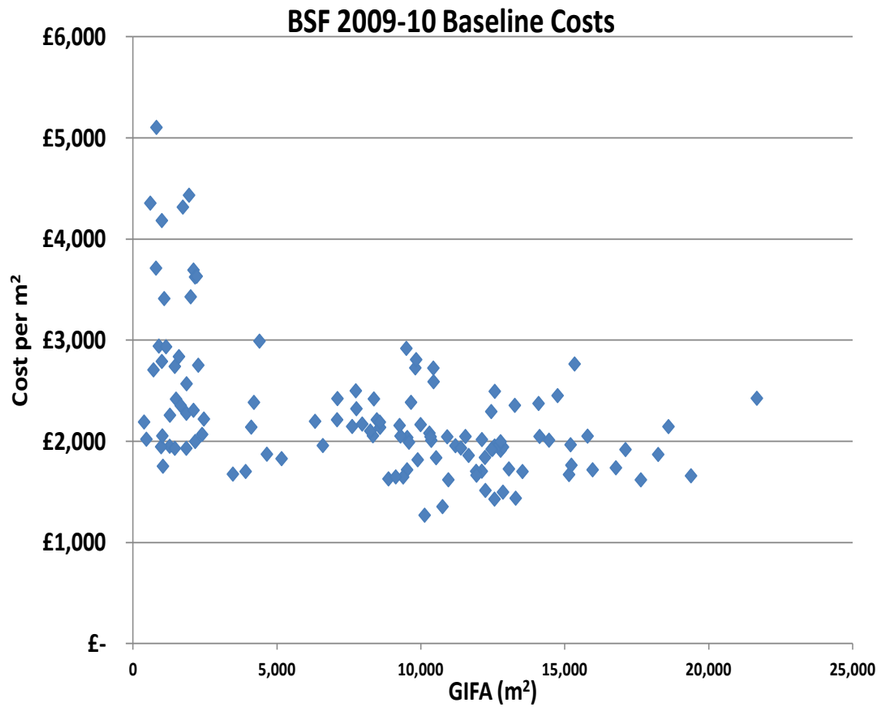
Pavement and Resurfacing **80^{th}:** £273/m^2; **Av:** £235/m^2; **20^{th}:** £202/m^2

Range T: 16% ✓

Chart specific commentary:

The costs of the two different types of project tend to scatter and cluster in slightly different ways although the size of the project does not seem to influence the cost.

Chart 22: Construction Cost Benchmarks for DfE / Education Funding Agency: Secondary Schools (2009/10 Baseline)



What this cost data represents: Normalised new build cost data for secondary schools for 2009/10 and earlier years.

Corresponding cost data tables: Refer to Tables 13 and 17 for more details.

Averages and 20th/80th percentile thresholds:

GIFA 0-2,000m²: **80th:** £3712/m²; **Av:** £2851/m²; **20th:** £2021/m²

Range T: 30% ✓

GIFA 2-4,000m²: **80th:** £3442/m²; **Av:** £2780/m²; **20th:** £1999/m²

Range T: 24% ✓

GIFA 4-6,000m²: **80th:** £3033/m²; **Av:** £2566/m²; **20th:** £1914/m²

Range T: 18% ✓

GIFA 6-8,000m²: **80th:** £2508/m²; **Av:** £2303/m²; **20th:** £2132/m²

Range T: 9%

Range T+B: 16% ✓

GIFA 8-10,000m²: **80th:** £2403/m²; **Av:** £2158/m²; **20th:** £1863/m²

Range T: 11%

Range T+B: 25% ✓

GIFA 10-12,000m²: **80th:** £2081/m²; **Av:** £1980/m²; **20th:** £1837/m²

Range T: 5%

Range T+B: 12%

GIFA 12-14,000m²: **80th:** £2017/m²; **Av:** £1899/m²; **20th:** £1701/m²

Range T: 6%

Range T+B: 17% ✓

GIFA 14-16,000m²: **80th:** £2299/m²; **Av:** £2075/m²; **20th:** £1845/m²

Range T: 11%

Range T+B: 22% ✓

GIFA 16-18,000m²: **80th:** £2180/m²; **Av:** £1962/m²; **20th:** £1690/m²

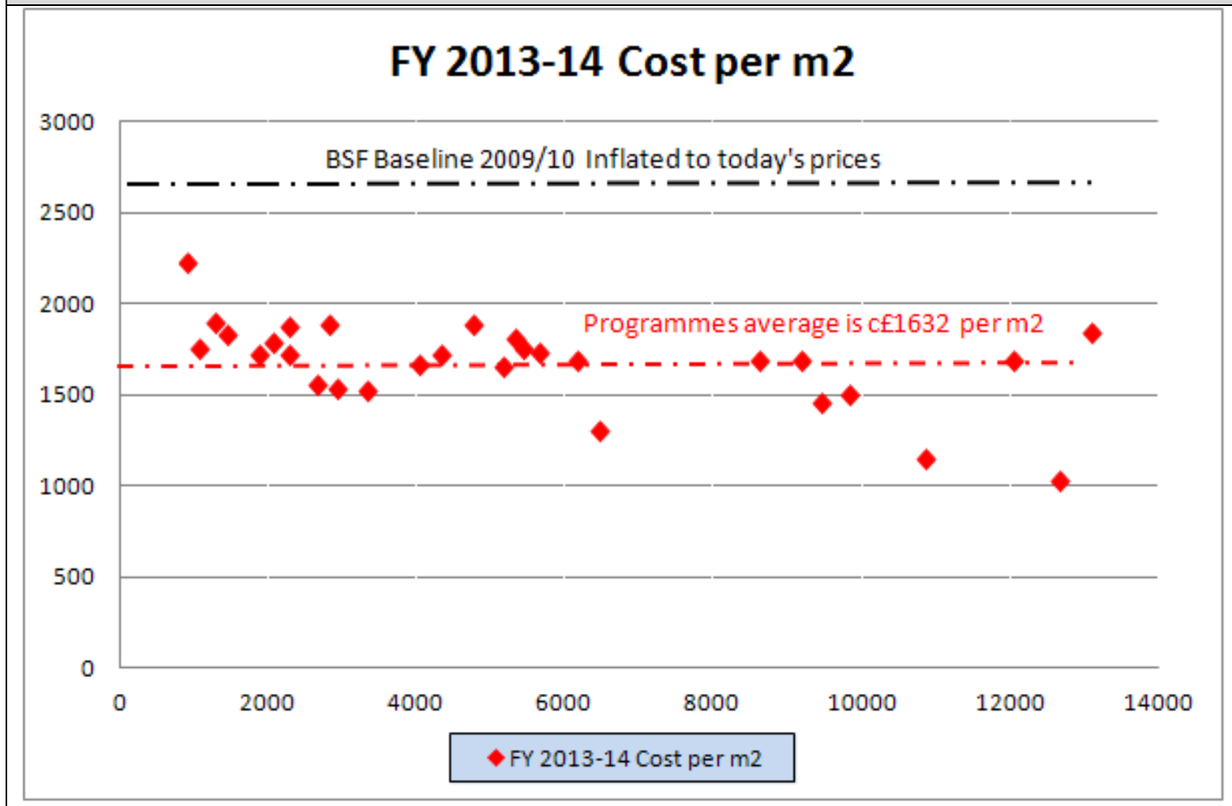
Range T: 11%

Range T+B: 25% ✓

GIFA 18-20,000m²: **80th:** £2105/m²; **Av:** £1938/m²; **20th:** £1786/m²

Chart 22: Construction Cost Benchmarks for DfE / Education Funding Agency: Secondary Schools (2009/10 Baseline)	
	Range T: 9% **Range T+B: 16%** ✓
	Chart specific commentary: Building Schools for the Future (BSF) projects were funded formulaically on pupil numbers, which produced a m^2 area per pupil. This area was then converted into a 'funding envelope' calculated on the basis of 50 per cent new build, 35 per cent refurbishment and 15 per cent minor works. Set rates were included in the formula for each category of works. Aggregating this information for all schools in a 'wave' provided an overall funding envelope for each authority, and it was decided locally how the funds were invested across groups of schools within a project. This funding approach has led to a large variation in the cost per m^2 depending on how these choices were made. Moving forward, school designs are to be more standardized, which is expected to produce significant cost reductions

Chart 23: Construction Cost Benchmarks for DfE / Education Funding Agency: Secondary Schools (2013/14 Baseline)



What this cost data represents: Normalised new build cost data for all schools procured and / or built in FY 2013-14 across EFA's capital programmes. This includes Free Schools, Academies and the PSPB.

All costs are in today's prices with a location factor of 1. The BSF baseline is the black dotted line uplifted to today's prices , all costs have a location factor of 1
The emerging average across these programmes is c£1632 per m2 which is represented by the dotted blue line.

Averages and 20th/80th percentile thresholds:

GIFA 0-750m^2: Insufficient data for this GFA banding

GIFA 750-1500m^2: **80th:** £ 2,032.21 /m^2; **Av:** £1,927.88 /m^2; **20th:**£1,799.28/m^2

Range T: 5%

Range T+B: 12%

GIFA 1500-3000m^2: **80th:** £1,860.65 /m^2; **Av:** £ 1,725.23 /m^2; **20th:** £1,585.10 /m^2

Range T: 5%

Range T+B: 12%

GIFA 3000-5000m^2: **80th:** £1,788.61 /m^2; **Av:** £1,699.30 /m^2; **20th:** £1,609.27/m^2

Range T: 5%

Range T+B: 10.5%

GIFA 5000-10,000m^2: **80th:** £1,736.68 /m^2; **Av:**£1,627.36 m^2; **20th:** £1,488.44/m^2

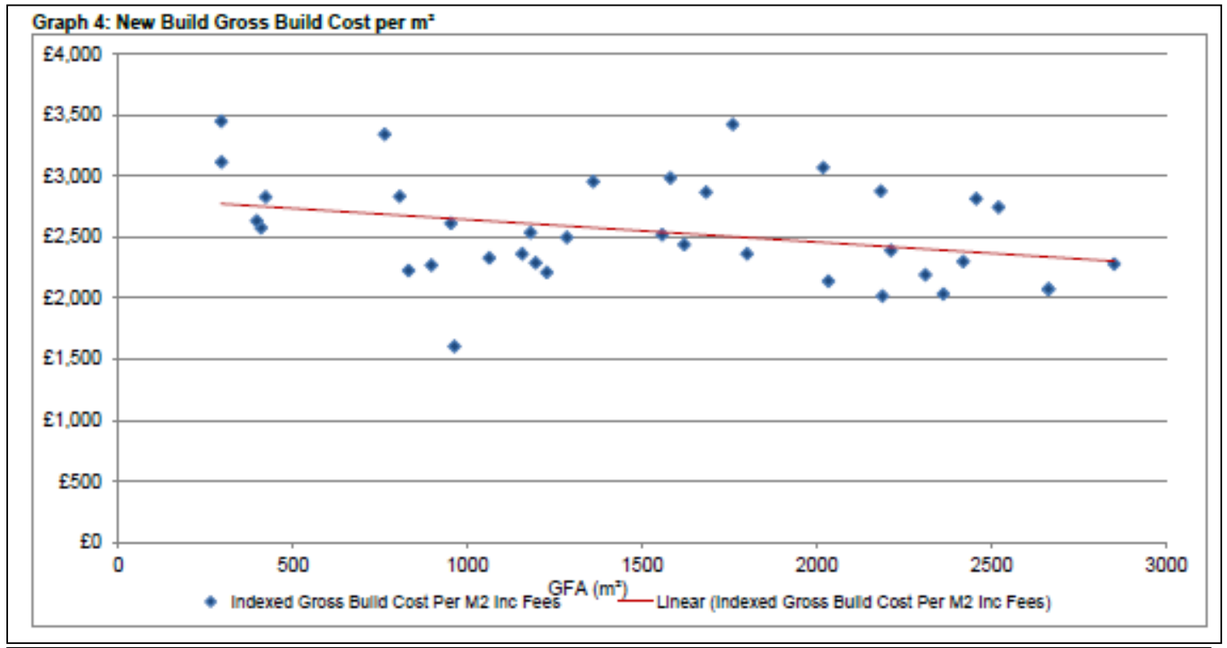
Range T: 6.7%

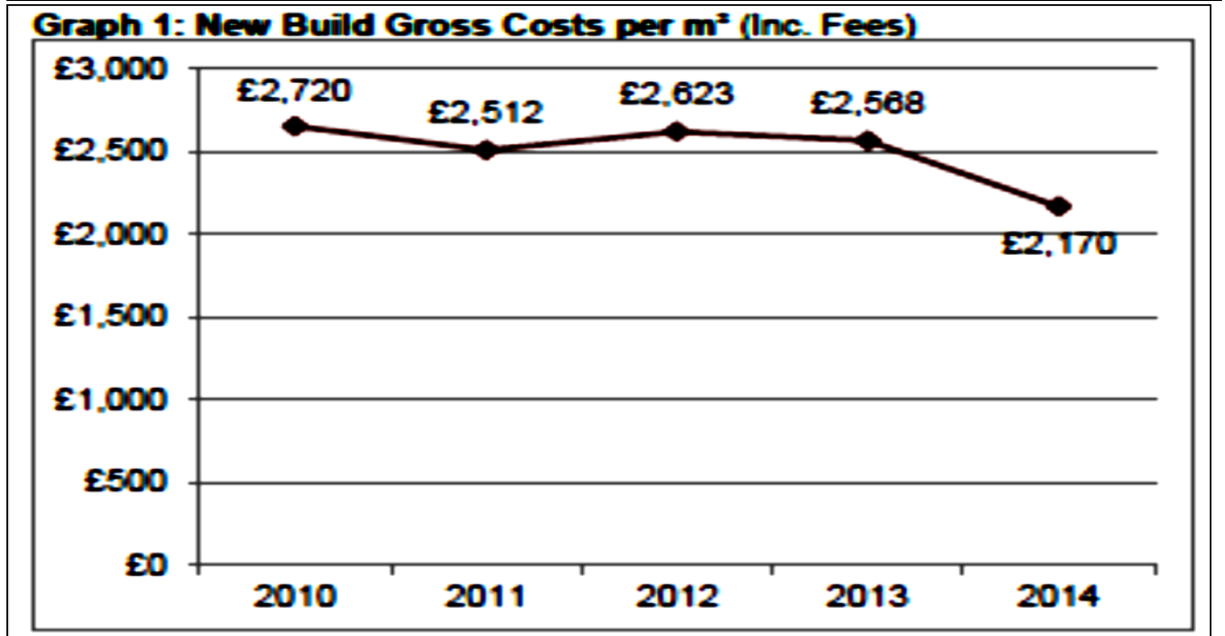
Range T+B: 15%✓

GIFA 10,000-15,000m^2: **80th:** £1,752.51 /m^2; **Av:**£1,428.91 m^2; **20th:** £1,101.50/m^2

Range T: 22.6% ✓

Chart 24: Construction Cost Benchmarks provided direct by Local Authorities (Compiled by Hampshire County Council and East Riding of Yorkshire Council): Primary Schools New Build Gross Total Project Cost per m^2





What this cost data represents: Normalised new build cost data for primary schools completed over the last six years all brought to a common price base of Q3 2012.

Corresponding cost data tables: Refer to Tables 21 and 24 for more details.

Averages and 20th/80th percentile thresholds:

GIFA 0-750m^2: **80th:** £3182/m^2; **Av:** £2920/m^2; **20th:** £2620/m^2

GIFA 750-1500m^2: **80th:** £2745/m^2; **Av:** £2467/m^2; **20th:** £2243/m^2

GIFA 1500-2250m^2: **80th:** £2983/m^2; **Av:** £2645/m^2; **20th:** £2363/m^2

GIFA 2250-3000m^2: **80th:** £2566/m^2; **Av:** £2314/m^2; **20th:** £2073/m^2

GIFA 3000-3750m^2: Insufficient data for this GFA banding

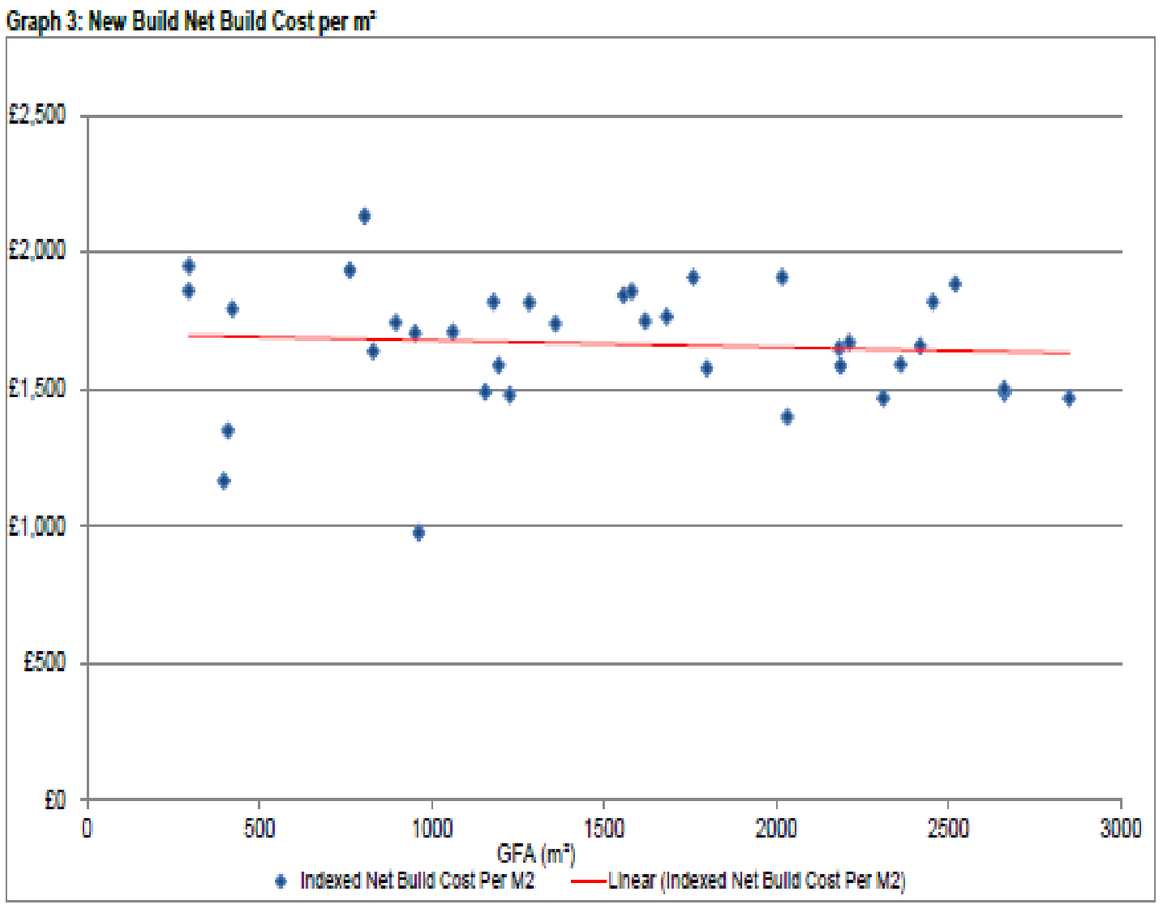
The above distribution graphs show a linear downwards trajectory since 2010 for the New build sample size. This is further demonstrated from the reduction in £/m2 costs since 2010.

The study has shown the following observations relating to cost projections since 2010 for primary school projects. Graph 1 to the right is based on 39 new build projects and Graph 2 is based on the whole sample (70 projects), comprising of 39 new build primary school projects; providing five year average costs of:

- Five year average Gross Cost for new build projects - £2,562 per m².
- Five year average Gross Cost for refurbished/partial new build projects - £2,176 per m².
- Five year average Gross Cost for the whole sample - £2,391 per m

A new build project has been taken as any project where 90% or more of the works being undertaken are new build, this includes extensions.

Chart 25: Construction Cost Benchmarks provided direct by Local Authorities (Compiled by Hampshire County Council and East Riding of Yorkshire Council): Primary Schools New Build Net Total Project Cost m^2



What this cost data represents: Normalised new build cost data for secondary schools completed over the last six years all brought to a common price base of Q3 2012.

Corresponding cost data tables: Refer to Tables 22 and 24 for more details.

Averages and 20th/80th percentile thresholds:

Averages and 20th/80th percentile thresholds:

GIFA 0-750m^2: **80th:** £1876/m^2; **Av:** £1622/m^2; **20th:** £1311/m^2

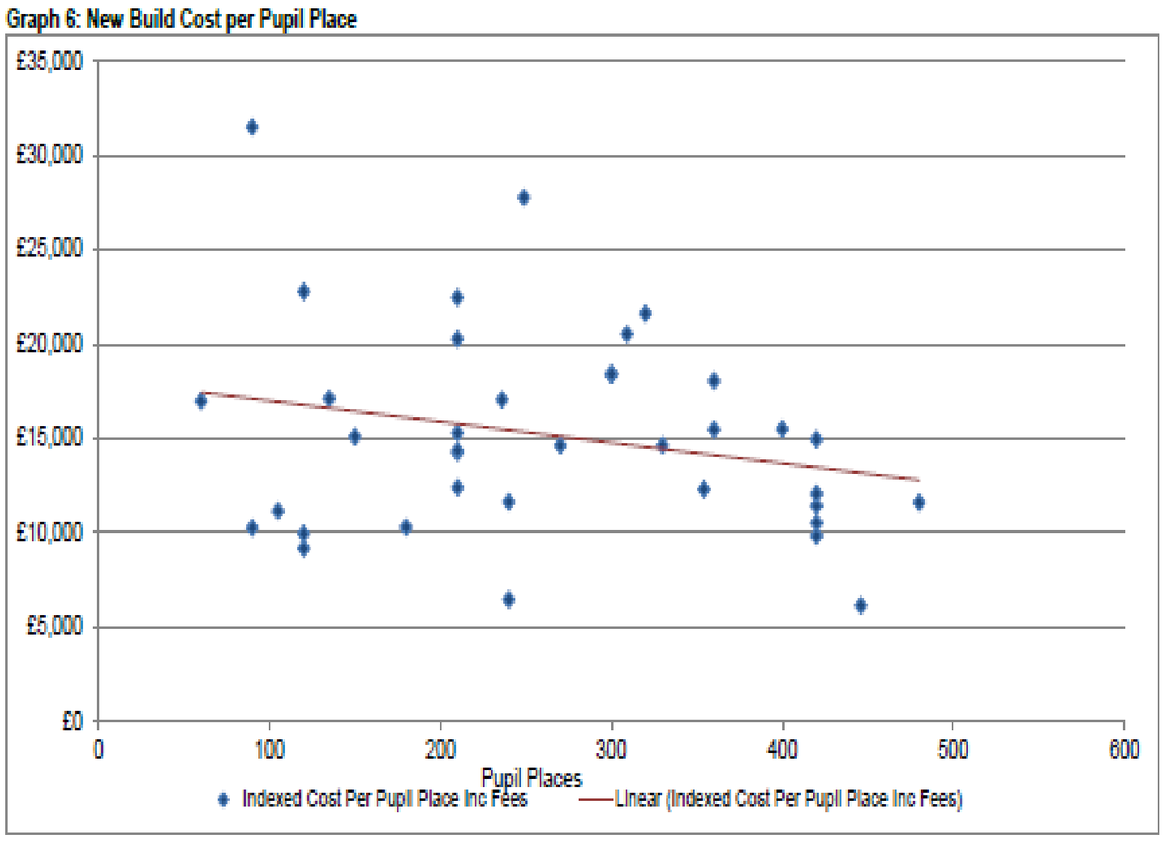
GIFA 750-1500m^2: **80th:** £1816/m^2; **Av:** £1673/m^2; **20th:** £1528/m^2

GIFA 1500-2250m^2: **80th:** £1855/m^2; **Av:** £1718/m^2; **20th:** £1583/m^2

GIFA 2250-3000m^2: **80th:** £1754/m^2; **Av:** £1608/m^2; **20th:** £1474/m^2

GIFA 3000-3750m^2: Insufficient data for this GFA banding

Chart 26: Construction Cost Benchmarks provided direct by Local Authorities (Compiled by Hampshire County Council and East Riding of Yorkshire Council): Primary Schools New Build Cost/Pupil



What this cost data represents: Normalised new build cost data for secondary schools completed over the last six years all brought to a common price base of Q3 2012.

Corresponding cost data tables: Refer to Table 23 and 24 for more details.

Averages and 20th/80th percentile thresholds:

Averages and 20th/80th percentile thresholds:

GIFA 0-750m^2: **80th:** £12,316/m^2; **Av:** £11,494/m^2; **20th:** £9,792/m^2

GIFA 750-1500m^2: **80th:** £17,062/m^2; **Av:** £14,937/m^2; **20th:** £10,811/m^2

GIFA 1500-2250m^2: **80th:** £20,255/m^2; **Av:** £15,548/m^2; **20th:** £12,293/m^2

GIFA 2250-3000m^2: **80th:** £20,331/m^2; **Av:** £17,414/m^2; **20th:** £11,779/m^2

GIFA 3000-3750m^2: Insufficient data for this GFA banding

DEPARTMENT COST BENCHMARK DATA: TABLES AND TREND CHARTS

The tables included within this section summarise the data points provided by Government departments and shown in the charts given in the previous section. The summary data is in the form of single point averages and ranges defined by the 20th and 80th percentile thresholds[15] and are presented in relation to the 2009/10 baseline for all departments. Wherever available, data for 2010/11, 2011/12, 2012/13 and 2013/14 have also been provided.

The data within the tables in this section should be read in conjunction with the notes provided in Tables 16 and 17 below.

[15] The Highways Agency is able to calculate each project cost using probabilistic three point estimating and estimating software with Monte Carlo simulation capability. Based upon the principles of three point estimating, the minimum, most likely and maximum cost for every activity is used to the produce the estimates. The Highways Agency therefore provides an 80% confidence probability by reporting the P10, P50 and P90 costs. This could be for individual schemes or a group of schemes or portfolio of schemes. Therefore, for example, setting a project forecast on the basis of a P90 result would indicate a larger contingency than one based on a P50 result.

Table 5: Construction Cost Benchmarks for Department of Health (P21 Framework)

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12[16]		2012/13		2013/14	
				Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile
Acute	New Build	**Type 1:** Total construction cost Includes: Contractor's Design Fees; Other development/project costs; Risks; Fittings, Furnishing and Equipment (FF+E)	£/m^2	3730	2400 4440	Not applicable		3425	2746 3946	3208	2506 3771	2699	1894 2478
	Refurbishment		£/m^2	2090	1140 2520			1939	1359 2268	2028	1459 2525	2210	2153 2307
Mental Health	New Build		£/m^2	2620	2130 3160			n/a	n/a	n/a	n/a	2528	2186 2814
	Refurbishment		£/m^2	2270	1650 2640			1566	Insuff data	n/a	n/a	1231	733 1552
Primary Care / Community	New Build		£/m^2	2120	1880 2330			n/a	n/a	n/a	n/a	n/a	n/a
	Refurbishment		£/m^2	1490	1010 1860			n/a	n/a	n/a	n/a	n/a	n/a
Other	New Build		£/m^2	1480	450 2200			n/a	n/a	n/a	n/a	1692	1236 2182
	Refurbishment		£/m^2	1580	1220 2000			n/a	n/a	n/a	n/a	n/a	n/a
All Schemes	New Build		£/m^2	3020	2080 3530			n/a	n/a	3208	2506 3771	2431	1864 2654
	Refurbishment		£/m^2	2000	1130 2450			n/a	n/a	2028	1459 2525	1775	790 2342
	All schemes (New Build and Refurbishment)		£/m^2	2680	1700 3160			2390	1484 3321	2465	1837 2885	2241	1849 2633

[16] In making comparisons with the 2009/10 baseline, 2011/12 benchmarks should be viewed with caution due to the statistically small sample size.

Chart 27: Department of Health (P21 Framework) New Build

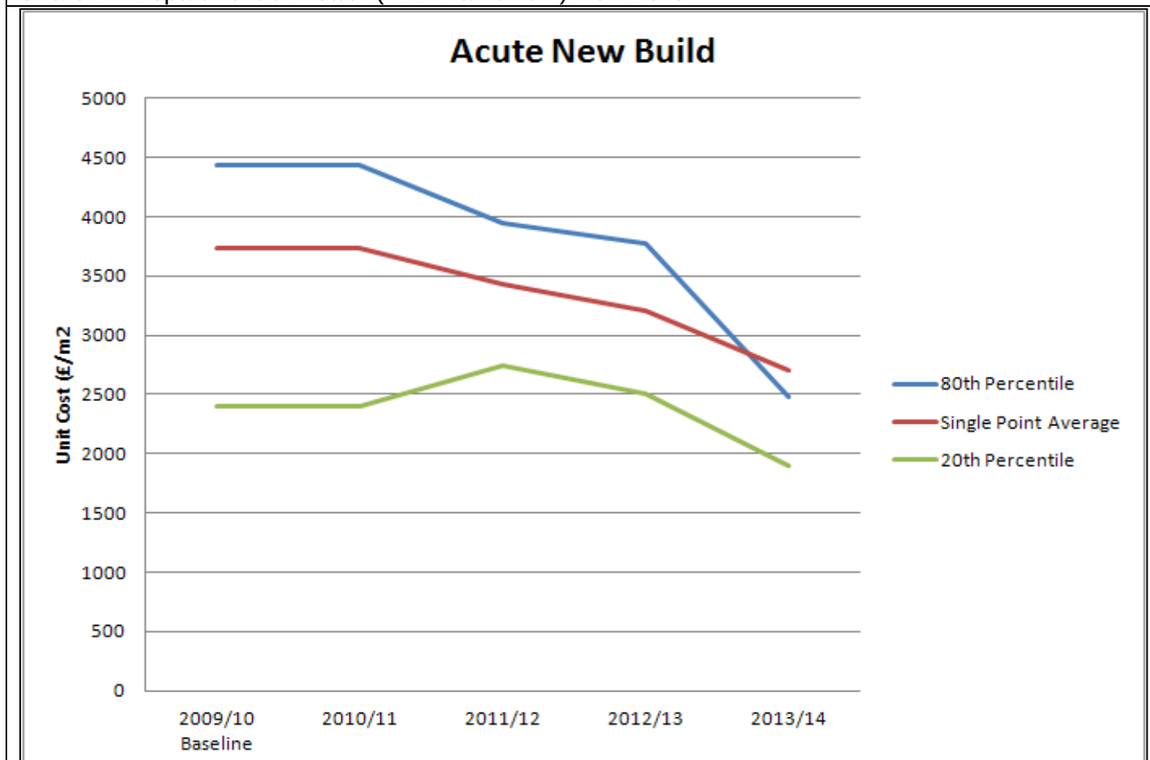


Chart 28: Department of Health (P21 Framework) Acute Refurbishment

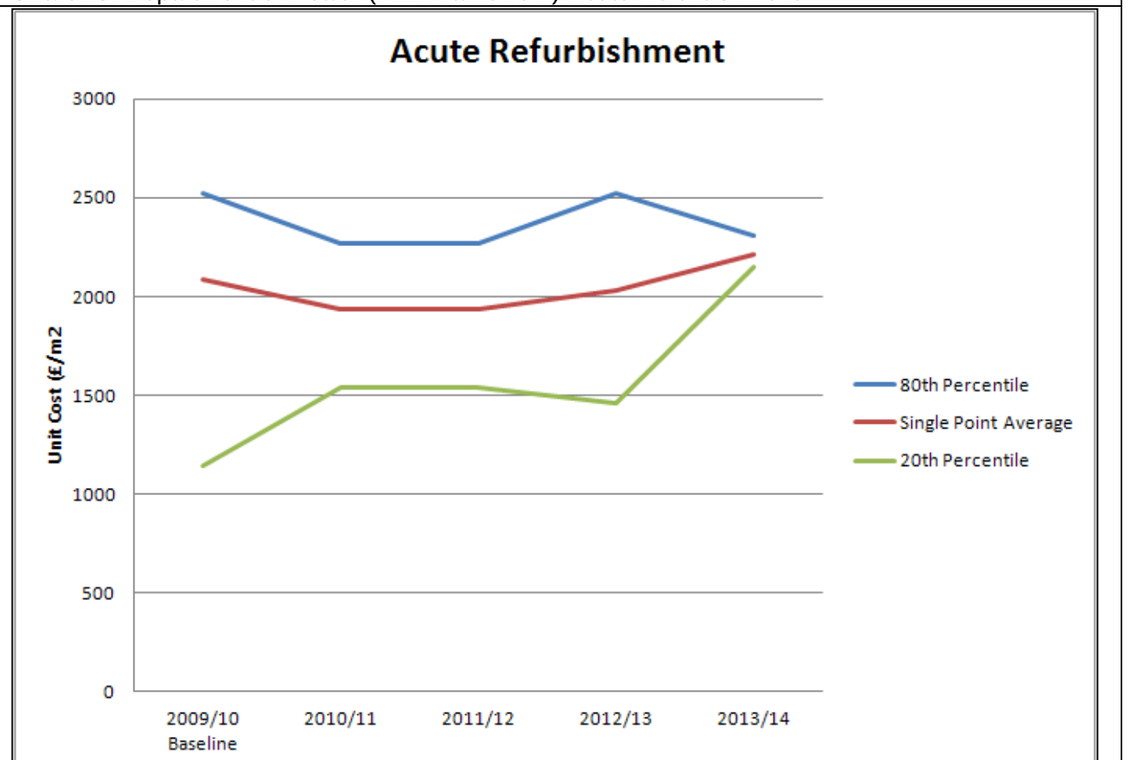


Table 6: Construction Cost Benchmarks for DEFRA/Environment Agency

Project Types	Project Subtypes	Benchmarks		Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
					Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile
River Flood Protection and Coastal Defences	N/A	**Type 4:** Unit cost embankments (500 – 5000 m^3 total volume)	5 year rolling average	£/m^3	46	23 66	44	19 65	32	18 39	34	17 46	43	17 62
		Type 4: Unit cost flood walls (less than 2.1 m high)		£/m	2802	1386 3784	2458	1204 2979	2293	1170 2919	2196	1138 2851	2176	1190 2928
		Type 2: Net Present Value (cumulative of major projects completed in the stated year. Figure in brackets is the whole life cost to flood defence grant in aid of these projects)	Annual	£m	2297 (278)	n/a	11359 (888)	n/a	12380 (824)	n/a	10246	n/a	n/a	n/a
		Type 3: Programme "Streamlining" (Ratio project development costs up to the equivalent of OGC Gateway 3 to FCRM Capital Programme Investment)	3 year rolling average	%	22	n/a	20	n/a	<20	n/a	15	n/a	n/a	n/a

Important note: The 2013/14 benchmarks have been skewed by those projects experiencing significant weather disruption. Several schemes were significantly affected by flooding with construction durations greatly extended. This has led to significantly higher preliminary costs than typical.

Chart 29: DEFRA/Environment Agency Embankments

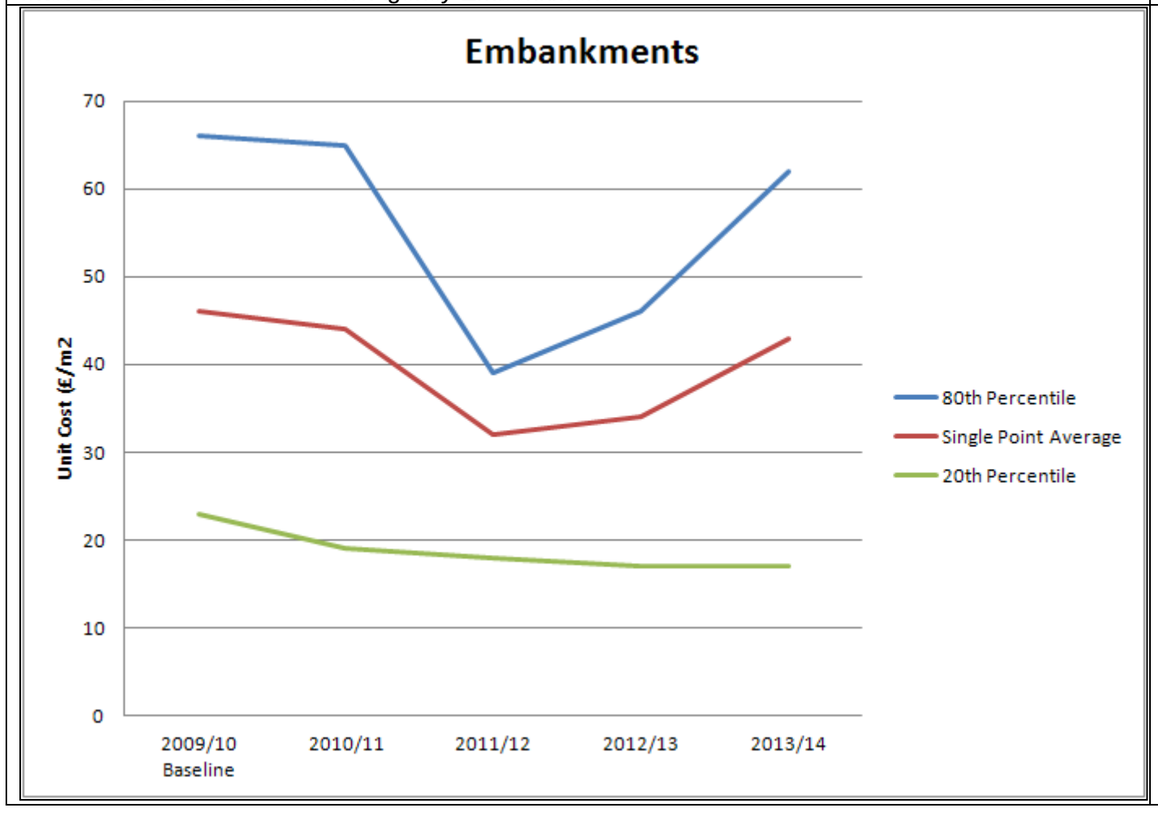
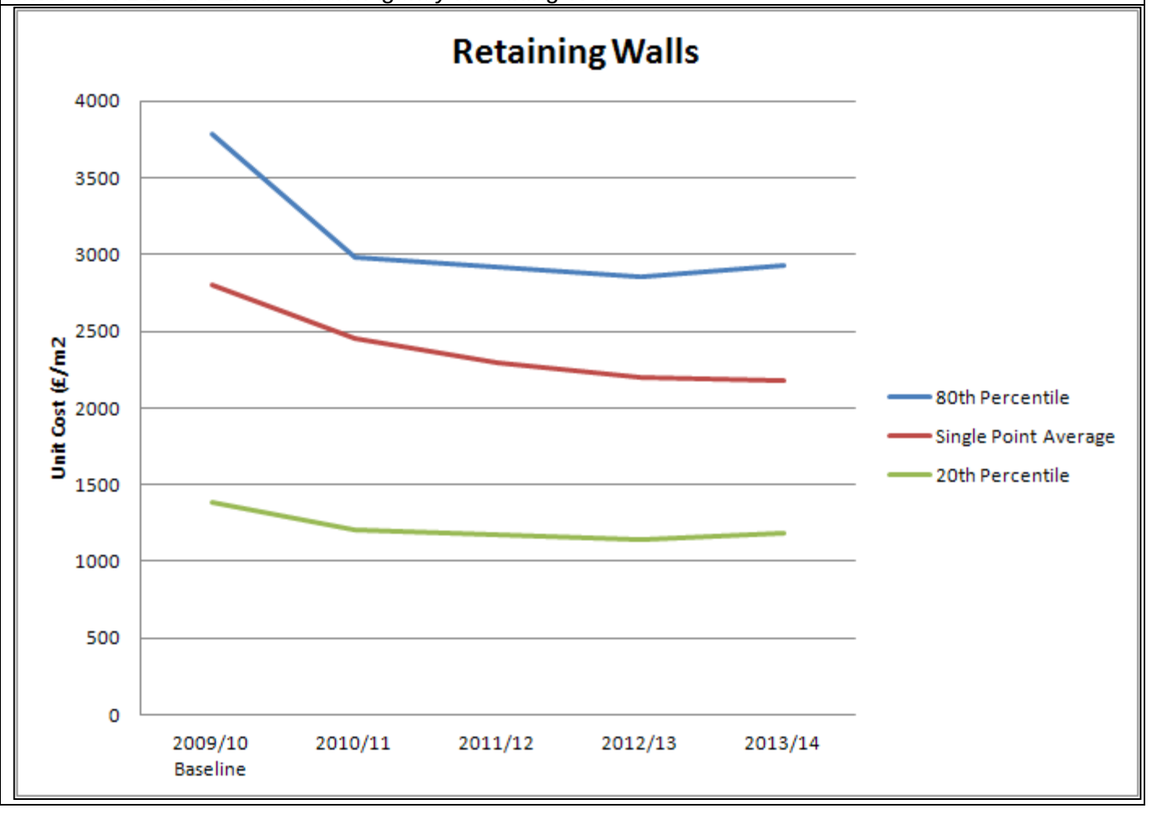


Chart 30: DEFRA/Environment Agency Retaining Walls



Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 7: Construction Cost Benchmarks for DfT/Highways Agency-Major Projects

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single point average (P50)	Range P10-P90[17]	Single point average (P50)	Range P10-P90	Single point average (P50)	Range P10-P90	Single point average (P50)	Range P10-P90	Single point average (P50)	Range P10-P90
Major Projects	Trunk Road Improvement[18]	**Type 1:** Total construction cost additional lane provided	£M/km	9.7	8.0 11.3	Not applicable given availability of corresponding data		7.0	6.0 7.4	6.2	5.8 7.0[19]	No Projects[8]	
		Type 1: Total construction cost additional lane provided	£K/m^2	2.6	2.1 3.0			1.8	1.6 1.9	1.6	1.5 1.9		
	Junction Improvement	**Type 1:** Total construction cost junction or interchange	£M/Jn	21	19 23	20.5	18.1 23.6	Not applicable given availability of corresponding data		Not applicable given availability of corresponding data[20]		19.5	17.0 21.4[9]
	Managed Motorways	**Type 1:** Total construction cost additional lane provided	£M/km	6.3	4.9 7.8	9.7	8.7 10.6[21]	4.2	3.5 4.9[22]	3.6	3.0 3.9[23]	4.0	3.4 4.4[10]
		Type 1: Total construction cost additional lane provided	£K/m^2	1.7	1.3 2.1	2.6	2.3 2.8	1.1	1.0 1.3	1.0	0.8 1.1	1.1	0.9 1.2

Important note: Type 1 benchmarks for 2010/11 and 2011/12 – i.e. those underlined – have been updated so that the data for all years are now at constant prices (2009/10). Refer also to Annex C.

Chart 31: DfT/Highways Agency-Major Projects Trunk Roads

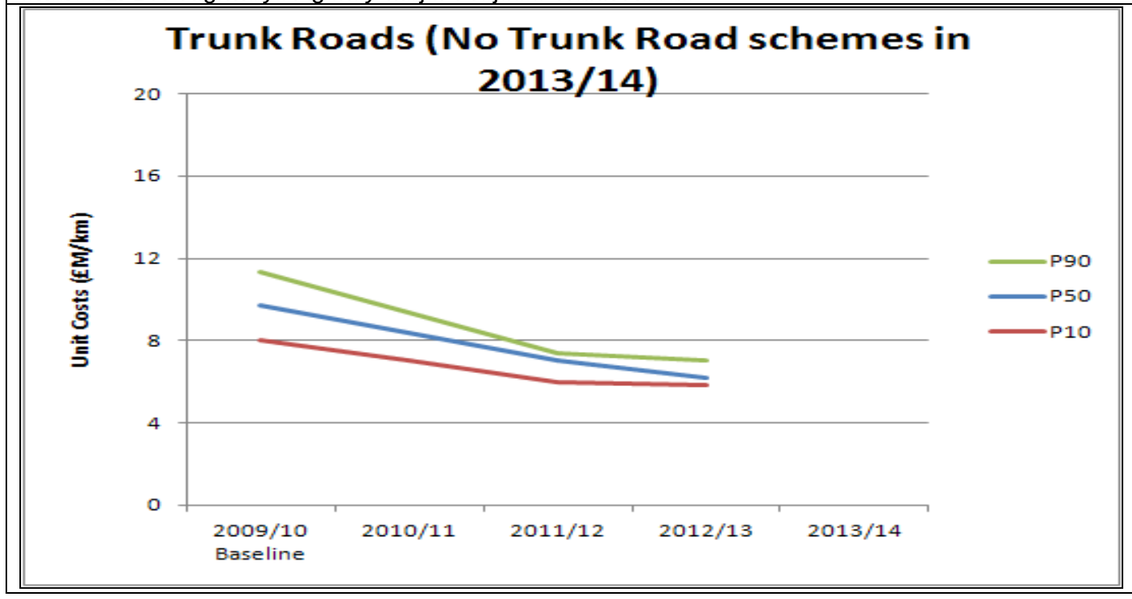
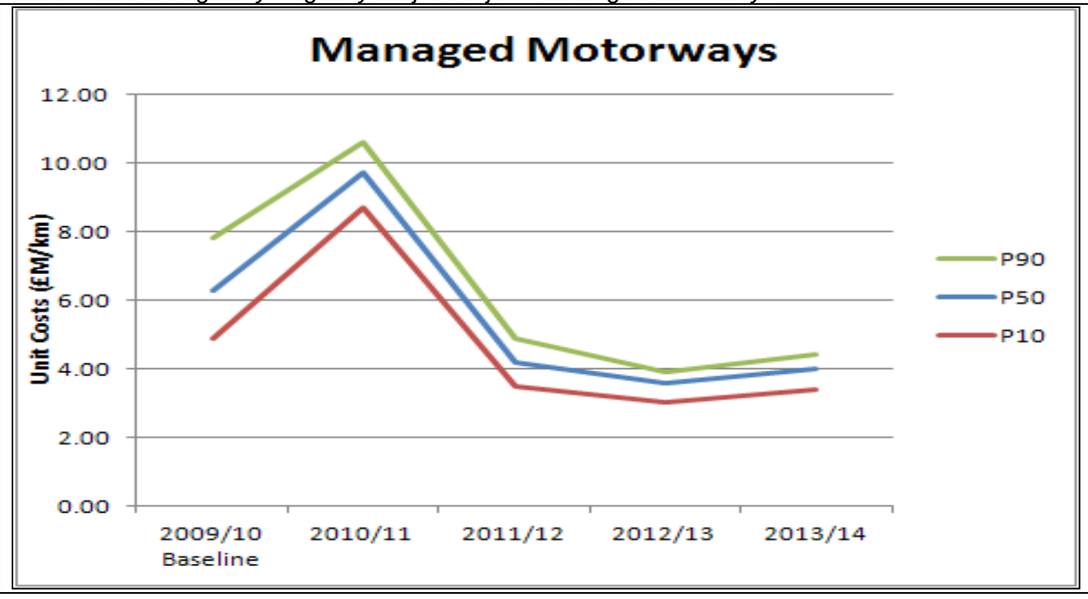


Chart 32: DfT/Highways Agency-Major Projects Managed Motorways



[17] HA project costs are 3 point estimates modelled to produce P10, P50 and P90 (minimum, most likely and maximum). Therefore, for example, setting a project forecast on the basis of a P90 result would indicate a larger contingency than one based on a P50 result.
[18] Trunk road projects that incorporate widening along the existing alignment or construction of a new alignment (by-pass).
[19] Data only available from a single project.
[20] Further junction work is anticipated beyond 2012/13.
[21] Only one Managed Motorway project was started in 2010/11.
[22] Data available from only three projects.
[23] Data only available from two projects.

Table 8: Construction Cost Benchmarks for DCLG/HCA: England (excluding London)[24]

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14[25]	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	**Type 1: Total construction cost**	**£ / m²**	1,403	1,128 - 1,597	1,362	1,119 - 1,561	1,228	1,013 - 1,442	1,263	1,048 - 1,432	1,359	1,110 - 1,616
	House/flat for LCHO			1,357	1,080 - 1,525	1,309	1,091 - 1,505	1,245	1,013 - 1,450	1,363	1,058 - 1,562	1,345	1,111 - 1,577
	House/flat for rent: General needs			1,324	1,115 - 1,527	1,294	1,108 - 1,502	1,183	1,003 - 1,407	1,201	1,048 - 1,426	1,298	1,101 - 1,555
	House/flat for rent: Supported Housing			1,942	1,459 - 2,426	1,869	1,500 - 2,172	1,541	1,283 - 2,026	1,691	1,484 - 2,047	1,900	1,548 - 2,259
	House/flat for rent	**Type 2: £/home and £/person housed**	**£/home**	100,421	83,328 - 118,309	100,907	85,713 - 117,106	90,057	74,379 - 108,998	92,587	80,838 - 113,008	98,411	82,104 - 118,176
			£/person housed	27,577	21,069 - 33,222	26,446	20,774 - 31,500	24,205	18,916 - 30,083	24,660	19,403 - 29,776	26,660	20,452 - 33,854
	House/flat for LCHO		**£/home**	99,245	79,583 - 114,511	97,293	84,630 - 113,325	93,708	75,605 - 109,021	99,466	79,122 - 122,747	102,694	84,388 - 123,772
			£/person housed	26,239	20,081 - 30,270	25,020	19,822 - 29,802	23,878	18,547 - 28,717	26,596	20,279 - 31,938	25,825	20,037 - 31,351
	House/flat for rent: General needs		**£/home**	99,191	83,292 - 117,943	99,900	85,730 - 117,000	89,949	74,740 - 109,592	91,548	80,882 - 113,008	97,641	82,060 - 118,176
			£/person housed	25,329	20,725 - 30,422	24,547	20,476 - 29,630	22,763	18,736 - 28,236	22,723	19,400 - 28,702	24,890	20,185 - 31,777
	House/flat for rent: Supported housing		**£/home**	106,628	83,974 - 127,164	106,358	85,152 - 119,661	90,644	75,767 - 107,856	98,068	82,939 - 108,789	103,351	83,344 - 116,924
			£/person housed	47,243	34,359 - 81,486	43,583	32,894 - 65,000	36,890	28,717 - 56,570	42,471	32,613 - 62,793	46,845	34,409 - 68,934
Refurbishment	Decent Homes	**Type 2: £/dwelling receiving capital works**	**£/home**	4,320	2,007 - 5,159	3,816	1,906 - 6,690	2,477	1,564 - 2,952	2,664	1,856 - 3,332	Information not available until December 2014	

[24] *'There have been some slight variations to the new build figures for 2011/12 and previous years from those published previously due to a slight change in the project sample used to align consistently with 2012/13 and 2013/14. '*

[25] *'There was an increase in benchmark costs for new build affordable housing between 2012/13 and 2013/14. Anecdotal evidence would indicate that this is as a result of broader changes in the prices of labour and some materials, but also as a result of the time limited nature of the HCA's 2011-15 Affordable Homes Programme whereby all schemes have to complete by the end of March 2015. There has been a concentration of affordable housing construction starts in 2013/14 in order to meet this deadline, putting pressure on labour and materials such that the average against benchmark costs has increased. Due to the significant savings in costs made in previous years, and after allowing for inflation, the HCA remains confident that the overall construction savings target will be achieved. '*

Chart 33: DCLG/HCA: England (excluding London) House/Flat for Rent

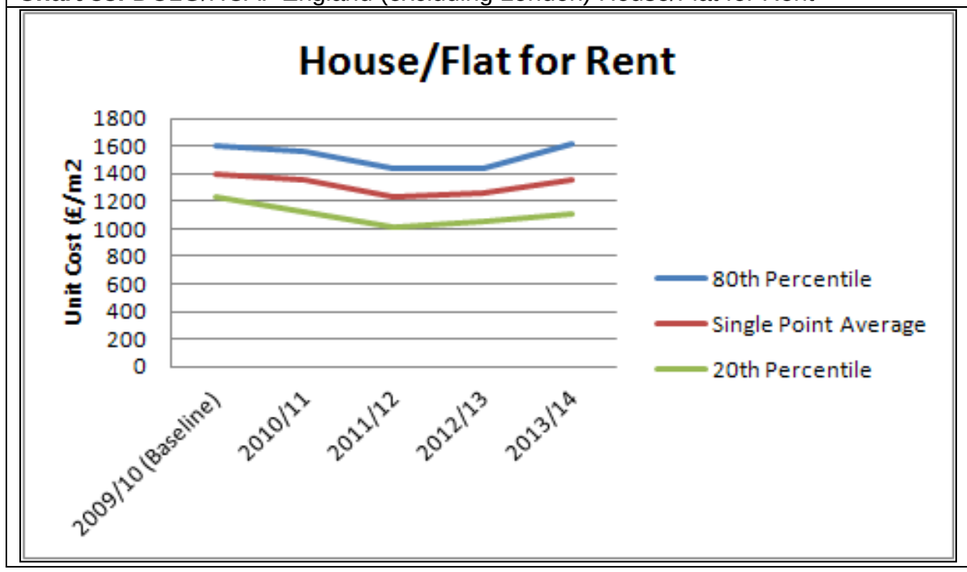


Chart 34: DCLG/HCA: England (excluding London) House/Flat for LCHO

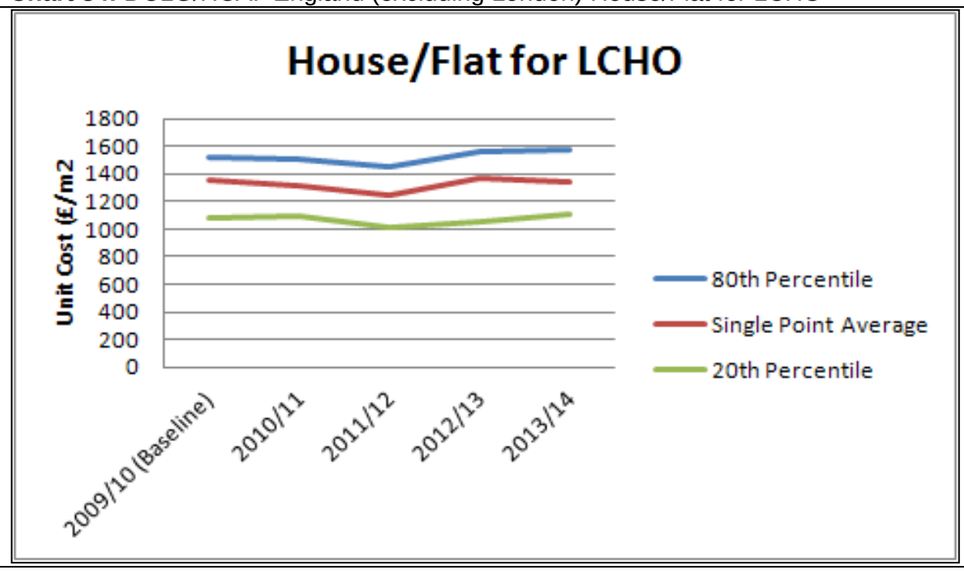


Chart 35: DCLG/HCA: England (excluding London) House/Flat for General Needs

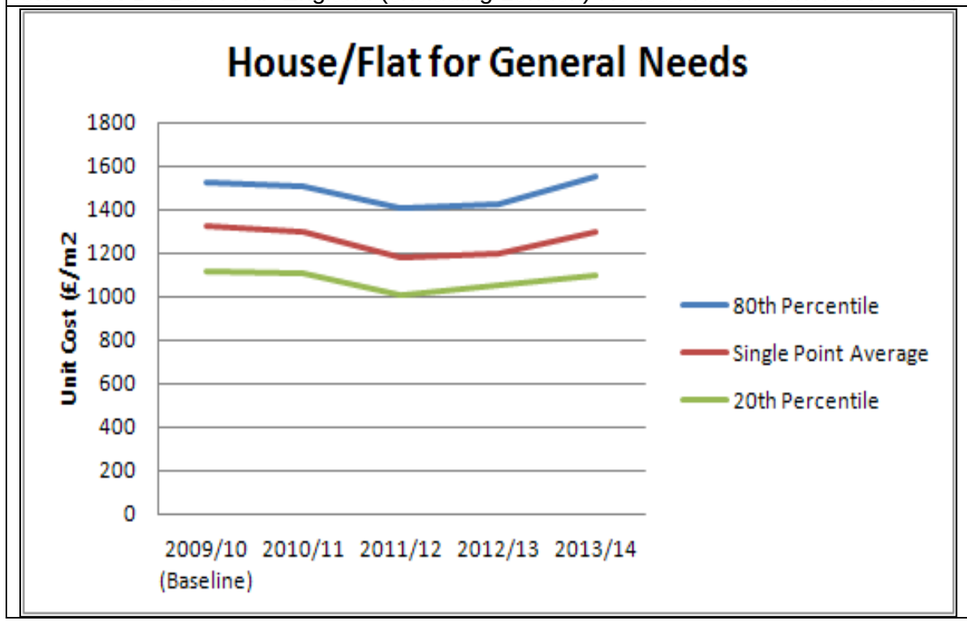


Chart 36: DCLG/HCA: England (excluding London) House/Flat Support Housing

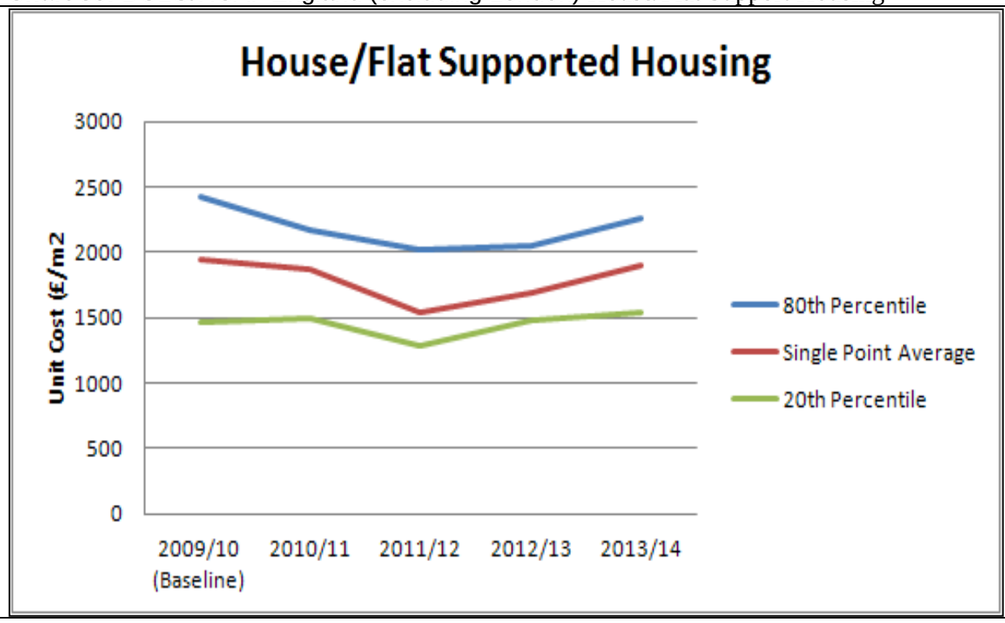


Table 9: Construction Cost Benchmarks for Ministry of Defence[26]: Single Living Accommodation (SLA)

Project Type	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile
New Build Single Living Accommodation	Ensuite Rooms - Flatlet format (Z Scale Flatlet)	Type 1	£/m²	1445	1336 1585	1495 (single project)	Insufficient data	1384	1374 1394	n/a	n/a	1219	1130 1306
		Type 2	£/Bed	46154	43244 48964	41836 (single project)	Insufficient data	40792	39933 41651	n/a	n/a	41235	36594 45850
		Type 2	m²/Bed	32.09	30.16 33.65	27.99 (single project)	Insufficient data	29.46	29.05 29.87	n/a	n/a	29.41	29.08 29.60
	Ensuite Rooms - Hotel format (Z Scale Hotel)	Type 1	£/m²	1421	1210 1571	1644 (single project)	Insufficient data	1691 (single project)	Insufficient data	1527 (single project)	Insufficient data	1345	1327 1367
		Type 2	£/Bed	41446	36320 45216	56417 (single project)	Insufficient data	46031 (single project)	Insufficient data	42214 (single project)	Insufficient data	38744	38183 39146
		Type 2	m²/Bed	29.18	28.25 30.02	34.31 (single project)	Insufficient data	27.23 (single project)	Insufficient data	27.65 (single project)	insufficient data	28.81	28.60 29.04
	12 Bed Dormitories (X Scale)	Type 1	£/m²	1430	1302 1556	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 2	£/Bed	33349	30416 36929	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 2	m²/Bed	23.31	23.09 23.80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4 Bed Study/Dormitories (Y Scale)	Type 1	£/m²	1444	1325 1579	n/a	n/a	1427 (single project)	Insufficient data	1295 (single project)	Insufficient data	1128	1121 1136
		Type 2	£/Bed	35726	31183 40559	n/a	n/a	35320 (single project)	Insufficient data	30367 (single project)	Insufficient data	27206	27039 27045
		Type 2	m²/Bed	24.67	23.79 25.62	n/a	n/a	24.76 (single project)	Insufficient data	23.45 (single project)	Insufficient data	24.13	24.13 24.13
	Senior NCO /Junior Officer Accommodation	Type 1	£/m²	1282	1129 1385	1185	1125 1245	n/a	n/a	1181	1145 1226	1072	1044 1113
		Type 2	£/Bed	47983	43211 53068	54816	52095 57536	n/a	n/a	44208	41280 47483	41620	40281 43655
		Type 2	m²/Bed	37.69	35.97 39.23	46.90	42.24 51.56	n/a	n/a	37.35	35.99 38.73	38.79	38.36 39.21
New Build Single Living Accommodation	Mixed Provision	Type 1	£/m²	1384	1173 1552	1207	1082 1332	1458 (single project)	Insufficient data	1319	1205 1470	1233	1121 1310
		Type 2	£/Bed	49113	43914 55608	42063	40987 43139	64442 (single project)	Insufficient data	45343	40443 50278	62415	52270 74895
		Type 2	m²/Bed	36.34	30.14 42.52	35.64)	32.85 38.44	44.20 (single project)	Insufficient data	34.73	31.36 40.96	40.53	37.74 46.06
	Aggregated Sample – All Types	Type 1	£/m²	1390	1227 1570	1321	1086 1495	1469	1394 1505	1303	1205 1469	1200	1111 1323
		Type 2	£/Bed	45092	38465 51568	48669	41836 56417	45475	38552 49713	44001	39219 48658	44733	37924 51397
		Type 2	m²/Bed	32.83	28.46 38.33	37.90	30.98 40.30	31.02	26.73 32.96	n/a	n/a	33.74	28.87 39.15

[26] Data for 2009/10, 2010/11, 2011/12 and 2012/13 has been revised following conclusion of VOP formula negotiations (see Table 17).

Table 9: Construction Cost Benchmarks for Ministry of Defence[26]: Single Living Accommodation (SLA)

Project Type	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile
Refurbishment	SLA Various	Type 1	£/m^2	Insufficient data	Insufficient data	Insufficient data	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a

Chart 37: Ministry of Defence: Single Living Accommodation (SLA) Senior NCO

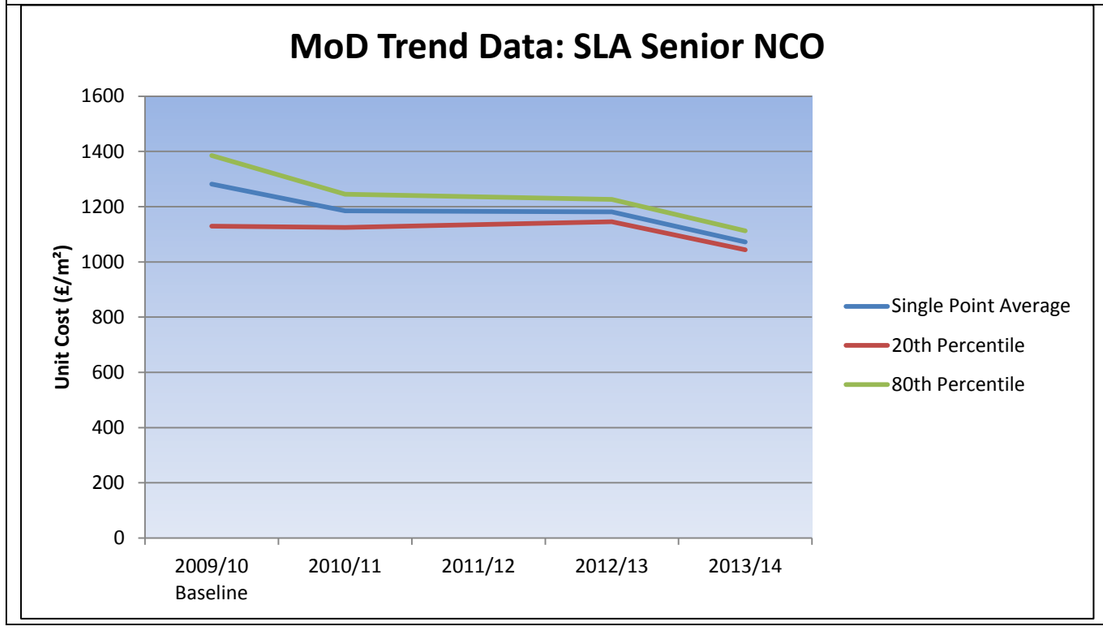


Chart 38: Ministry of Defence: Single Living Accommodation (SLA) All Types

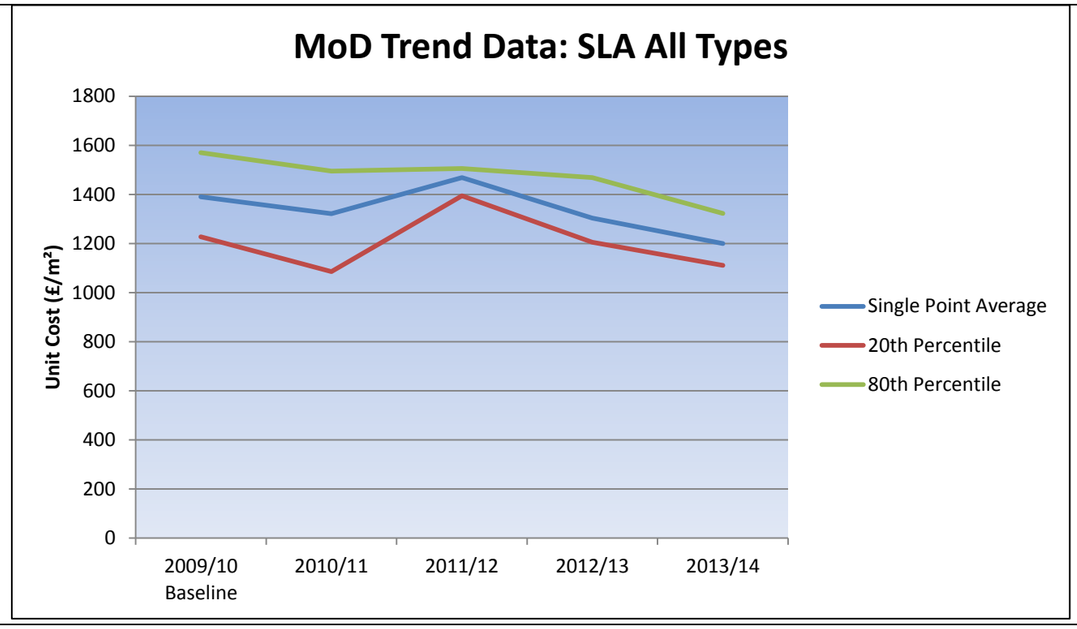


Table 10: Construction Cost Benchmarks for Ministry of Defence: Service Family Accommodation (SFA)

Project Type	Project Subtypes[27,28]	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13	
				Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile
Service Family Accommodation	Type B – Two bedrooms	Type 1	£/m^2	1043	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	89187	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type C – Three bedrooms	Type 1	£/m^2	1063 (single project)	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	105347 (single project)	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type D – Three bedrooms	Type 1	£/m^2	1013	971 1062	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	139287	134527 148112	n/a	n/a	n/a	n/a	tbc	tbc
	Type I – Four bedrooms	Type 1	£/m^2	976	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	245027	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type II – Four bedrooms	Type 1	£/m^2	965	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	202668	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type III – Three bedrooms	Type 1	£/m^2	899 (single project)	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	138872 (single project)	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type IV – Four bedrooms	Type 1	£/m^2	883	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	121530	Insufficient data	n/a	n/a	n/a	n/a	tbc	tbc
	Type V – Three bedrooms	Type 1	£/m^2	897	884 910	n/a	n/a	n/a	n/a	tbc	tbc
		Type 2	£/House	106741	105190 108291	n/a	n/a	n/a	n/a	tbc	tbc

[27] The benchmarks include data for projects covering 2008 to 2011 because of the low sample size.
[28] The benchmarks for Type B are calculated from the Type C costs. Type I and Type II benchmarks have been calculated from the Type III costs. Type IV benchmark has been calculated from the Type V costs.

Table 11: Construction Cost Benchmarks for Ministry of Defence: Airfield Pavements

Project Type	**Project Subtypes**[29]	**Benchmarks**	**Units**	**2009/10 (Baseline)**		**2010/11**		**2011/12**		**2012/13**	
				Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile
Airfield Pavements	Resurfacing	Type 1	£/m^2	71	48 87	n/a	n/a	n/a	n/a	n/a	n/a
	Pavement and Resurfacing	Type 1	£/m^2	235	202 273	n/a	n/a	n/a	n/a	n/a	n/a

[29] The benchmarks include data for projects covering 2004 to 2011 because of the low sample size.

Table 12: Construction Cost Benchmarks for Ministry of Justice

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile
All projects	New Build	**Type 1:** Kitchens	£/m^2	2999	Insuff. data	n/a	n/a	n/a	n/a	2482	Insuff. data	2735	Insuff[30]. data
		Type 1: House Blocks	£/m^2	3465	2679 4510	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Insuff. data
		Type 1: New Prison	£/m^2	3585	Insuff. data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 1: New Ancillary (incl. prison workshops)	£/m^2	3528	2091 5115	2832	Insuff. data	n/a	n/a	2566	2071 3082	n/a	n/a
		Type 1: Court Buildings	£/m^2	5046	Insuff. data	n/a	n/a	3970	Insuff. data	n/a	n/a	n/a	n/a
	Refurbishment	**Type 1:** Prison: General Minor Refurbishment	£/m^2	1542	430 2294	2402[31]	497 2830	1204	109 2080	n/a	n/a	n/a	n/a
		Type 1: Prison: Major Refurbishment	£/m^2	3940	3728 5092	n/a	n/a	n/a	n/a	2856	Insuff. data	n/a	71
		Type 1: Prison: Major M & E - Fire & General Alarms	£/m2	284		n/a		n/a		n/a		148	213
	New Build	**Type 3:** Product value[32] from Cost Component Breakdown	%	45	n/a	49	n/a	54	n/a	59	n/a	62.4	n/a
	Refurbishments less than £2m	**Type 3:** Product value from Cost Component Breakdown	%	32	n/a	36	n/a	39	n/a	43	n/a	45.4	n/a
	Refurbishments greater than £2m	**Type 3:** Product value from Cost Component Breakdown	%	32	n/a	36	n/a	39	n/a	43	n/a	49.7	n/a

[30] Due to no projects being completed within these categories during 2013/14, no data is available to update these figures
[31] Influenced by a significant range found within small sample.
[32] Positive progress is indicated by upwards movement in product %.

Chart 39: Ministry of Justice New Ancillary

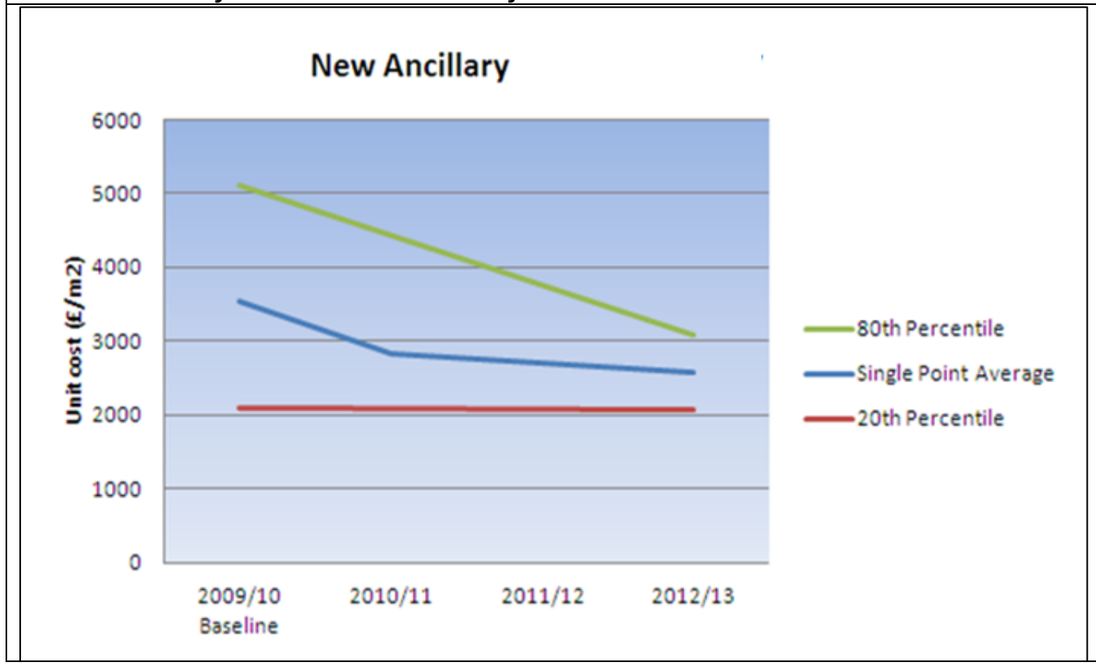


Chart 40: Ministry of Justice Minor Refurbishment

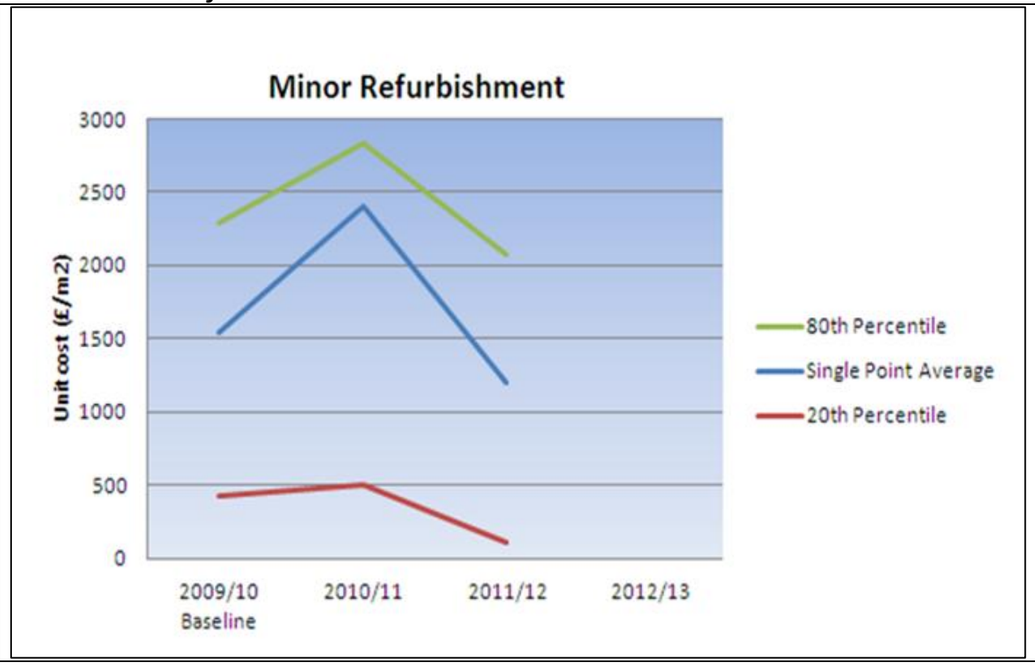


Table 13: Construction Cost Benchmarks for DfE / Education Funding Agency

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13	
				Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile	Single point average	Range 20th - 80th Percentile
New Build Secondary Schools	GIFA 0-2,000 m^2	**Type 1:** Total construction cost Includes: External works and professional fees; Excludes: Fittings, Furnishing and Equipment (FF+E)	£/m^2	2851	2021 3712	2972	2106 3870	2726	2212 2881	BSF end of year returns are still being analysed. In the interim reference should be made to the direction of travel evidenced by the Academies Programme (refer to note below) and Table 11-2.	
	GIFA 2-4,000 m^2		£/m^2	2780	1999 3442	2897	2084 3588	2230	Insuff. data		
	GIFA 4-6,000 m^2		£/m^2	2566	1914 3033	2675	1995 3162	2098	1925 2302		
	GIFA 6-8,000 m^2		£/m^2	2303	2132 2508	2400	2222 2615	2115	2055 2173		
	GIFA 8-10,000 m^2		£/m^2	2158	1863 2403	2250	1942 2505	Insuff. data	Insuff. data		
	GIFA 10-12,0000 m^2		£/m^2	1980	1837 2081	2064	1915 2169	1950	Insuff. data		
	GIFA 12-14,000 m^2		£/m^2	1899	1701 2017	1980	1773 2103	Insuff. data	Insuff. data		
	GIFA 14-16,000 m^2		£/m^2	2075	1845 2299	2163	1923 2396	Insuff. data	Insuff. data		
	GIFA 16-18,000 m^2		£/m^2	1962	1690 2180	2045	1762 2273	Insuff. data	Insuff. data		
	GIFA 18-20,000 m^2		£/m^2	1938	1786 2105	2020	1861 2194	Insuff. data	Insuff. data		

Note: The average cost of new schools in the last parliament was £2524 per m^2 (at 2012/13 prices). This refers to new build construction for mainstream secondary schools in the BSF programme. This compares to the latest outturn cost of £1455 per m^2 for new build schools delivered via EFA's Contractors' Framework, primarily the *"71 Academies Programme"*, and this is also the basis for funding allocations through the new Priority School Building Programme. This gives an efficiency saving of 42%. It has been calculated as the *"keenest"* price that can be applied to a quality school build, based on costs built up as part of the James Review and subsequent work on baseline designs.

Table 14: Construction Cost Benchmarks for DfE / Education Funding Agency: All Capital Programmes (2012/13)

Total number of schools across all programmes	98	**Total number of free school projects**		31	**Number of free schools with no inflation information**	12
Average cost per m^2 of all projects		1632	**Number of schools within sample**		98
Average cost per m^2 of all free schools		1680	**Number of schools within sample**		31
Average cost per m^2 of all free school projects (excluding the 25 Free Schools with no inflation adjustments)		1643	**Number of schools within sample**		19

Note: These programmes are at a relatively early stage and there represent limited sample sizes. Benchmarks are provided at the highest level (i.e. not broken down by GIFA). These costs are then pooled across capital programmes to maximise the sample size. The data include costs from the following programmes: - Academies, Free Schools, and University Technical Colleges (UTCs) and the Priority Schools Building Programme (PSPB). As these programmes mature and the sample sizes increase across each programme, then individual benchmarks will be developed.

DEPARTMENT ELEMENTAL COST BENCHMARK DATA: CHARTS AND TABLES

This document includes for the first time elemental (group element) benchmarks for four departments that construct buildings. In future publications it is intended to develop this section further, for example, by also addressing infrastructure projects.

Elemental benchmarks represent the next level in breaking down the construction costs beyond the overarching benchmarks that are presented in the first part of this document. Typically they separate out costs such as the foundations, structural frame, external cladding, building services and internal finishes. They also separate out other costs such as the contractor's overheads, profit and construction risk (though on the grounds of commercial confidentiality only some of these costs are included in the charts and tables below).

The publication of elemental (group element) benchmarks highlights the data available to departments in comparing costs - whether internally or externally - these comparisons being more instructive than those relating to overarching benchmarks. In comparing elemental (group element) costs across departments – refer to Summary Table A below – it is apparent that some project types are more comparable than others. For example, there appears to be reasonably good correspondence between the elemental (group element) costs for Primary / Community Care, Other, Single Living Accommodation and Secondary Schools.

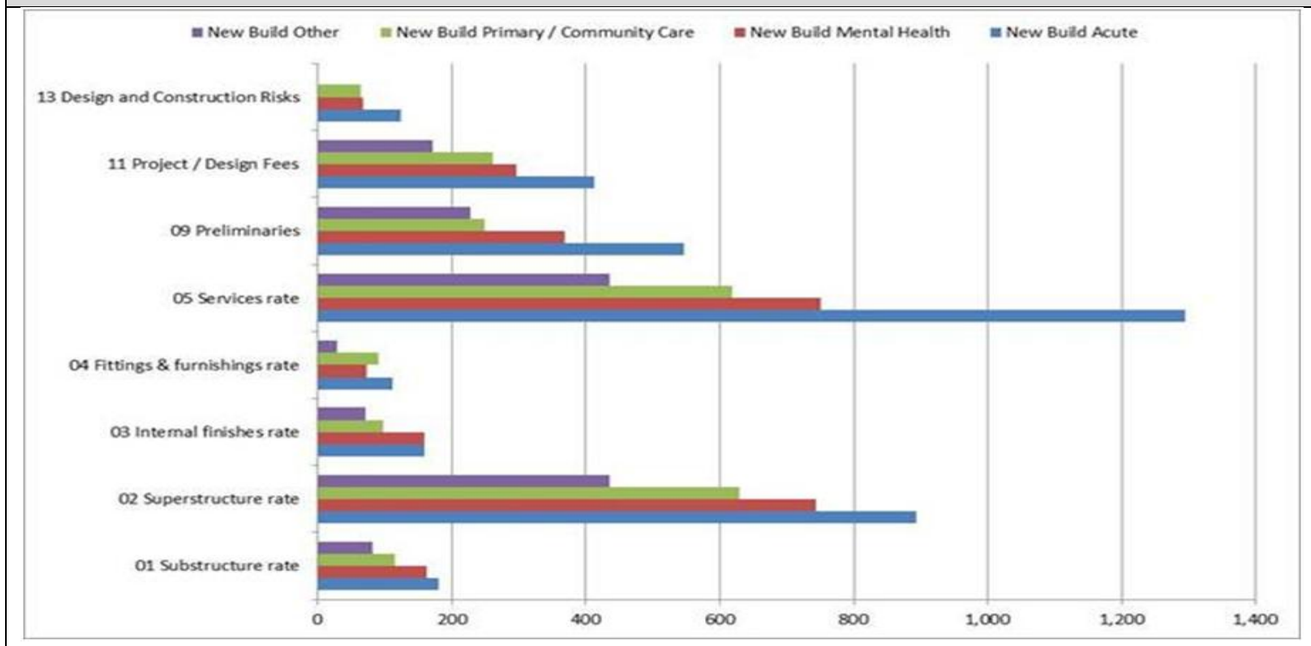
Similarly, some group element categories are also more comparable than others. For example, unit costs for external works vary considerably (from £100/m^2 to £670/m^2), and this might be expected given the scope of work involved is also likely to vary considerably.

In making comparisons using this data, departments therefore need first to obtain a granular understanding of both the commonalities and differences. Part 3: *Use of Cost Benchmarks* reports on the progress departments are making in developing these comparisons.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Summary Table A: Group Element Construction Cost Benchmarks (£/m^2; compiled from Charts 27 to 40 above)																
Department	**DoH / P21 (New Build)**								**MoD**				**MoJ**		**DfE / EFA**	
Project Type	**Acute**		**Mental Health**		**Primary / Community Care**		**Other**		**Single Living Accommodation**		**Service Families Accommodation**		**Various Project Types**		**Secondary Schools**	
Group Element Category *(using New Rules of Measurement NRM references e.g. 01, 02 etc – refer also to Annex B)*	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile	Single point average	Range 20th – 80th Percentile
01 Substructure Rate	180	87 240	162	110 185	114	74 149	82	32 108	73	51 88	89	62 129	172	62 268	109	N/A
02 Superstructure Rate	893	607 1063	743	554 859	630	585 658	435	203 597	563	480 628	472	389 595	1232	442 1735	570	N/A
03 Internal Finishes Rate	158	81 191	159	130 192	98	89 106	70	9 106	109	85 131	141	72 184	95	8 142	95	N/A
04 Fittings & Furnishings Rate	112	55 168	72	50 100	90	41 112	29	11 49	68	48 79	51	26 70	145	2 252	76	N/A
05 Services Rate	1295	733 1552	750	579 873	618	510 731	436	35 671	294	246 334	202	139 245	825	218 1197	424	N/A
08 External Works	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	152	106 194	374	331 418	461	226 670	212	N/A
09 Preliminaries	547	257 651	368	289 422	248	229 295	228	33 364	335	277 389	223	156 357	423	151 804	333	N/A
11 Project / Design Fees	412	195 503	297	244 368	261	221 309	171	22 310	48	32 60	62	37 78	229	126 320	235	N/A
13 Design & Construction Risks	124	41 168	67	45 89	64	41 74	35	7 49	Included across all elemental rates		N/A	N/A	35	0 52	77	N/A

Chart 41: Elemental Construction Cost Benchmarks for Department of Health / P21: New Build (Various Project Types)



What this cost data represents: Chart 41 represents an elemental split of the 2009/10 baseline single point average £/m^2 for new build projects. External works are excluded and costs are normalised to PUBSEC 173 and location factor 1.00 for consistency within the baseline.

Large variances in elemental £/m^2 are a result of the different project types within each cost category.

The sample size is the same as the 2009/10 baseline as detailed in Table 15.

Refurbishment projects are excluded due to the unavailability of 2009/10 baseline data. In future updates it should be possible to also include data on refurbishment projects for years subsequent to the 2009/10 baseline.

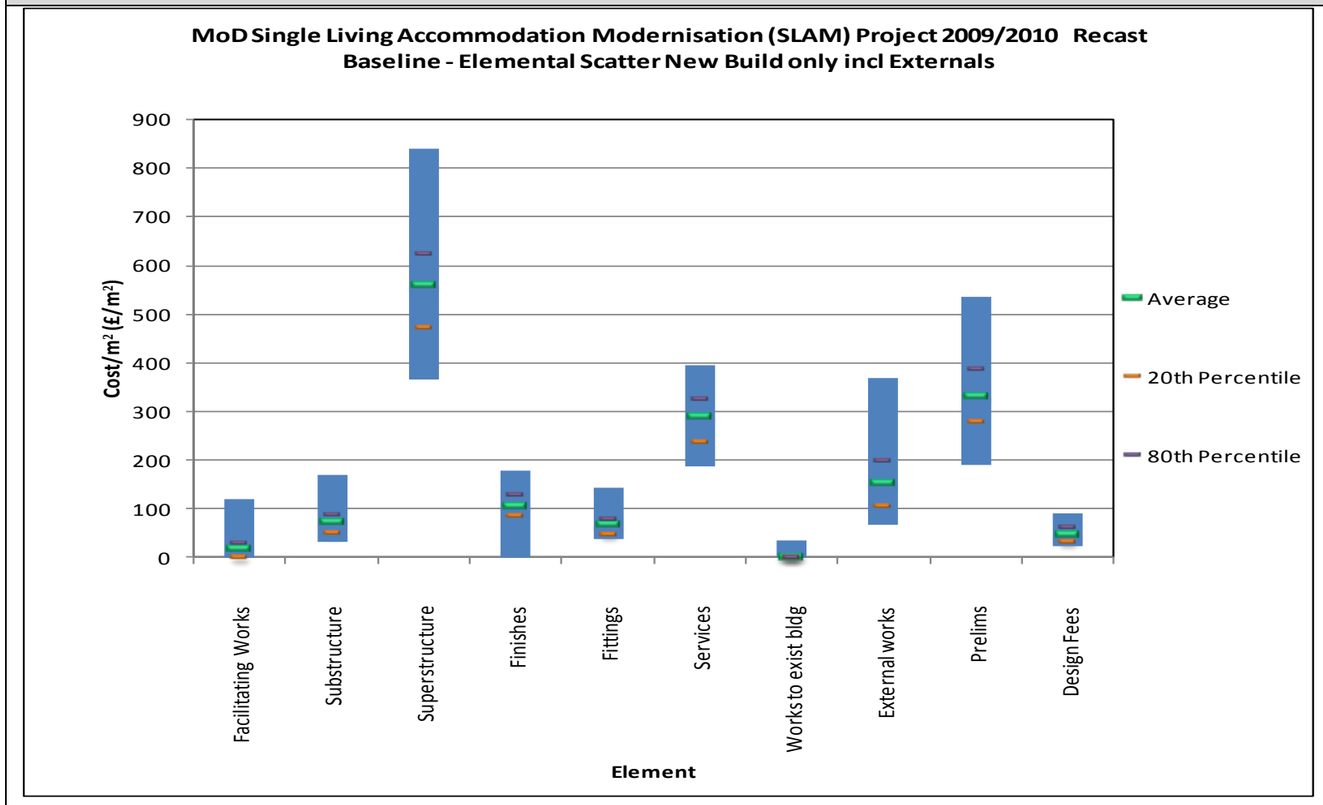
Table 15: Elemental Construction Cost Benchmarks for Department of Health / P21: New Build (Various Project Types)

New Build Project Types	**Acute**		**Mental Health**		**Primary / Community Care**		**Other**	
Group Element Category (with unit costs shown in £/m^2)	Single Point Average	Range 20th - 80th Percentile	Single Point Average	Range 20th - 80th Percentile	Single Point Average	Range 20th - 80th Percentile	Single Point Average	Range 20th - 80th Percentile
01 Substructure rate	180	87 240	162	110 185	114	74 149	82	32 108
02 Superstructure rate	893	607 1063	743	554 859	630	585 658	435	203 597
03 Internal finishes rate	158	81 191	159	130 192	98	89 106	70	9 106
04 Fittings & furnishings rate	112	55 168	72	50 100	90	41 112	29	11 49
05 Services rate	1295	733 1552	750	579 873	618	510 731	436	35 671
09 Preliminaries	547	257 651	368	289 422	248	229 295	228	33 364
11 Project / Design Fees	412	195 503	297	244 368	261	221 309	171	22 310
13 Design and Construction Risks	124	41 168	67	45 89	64	41 74	35	7 49

Excluded: 00 Facilitating Works; 07 Work to Existing Buildings; 08 External Works.
Included across elements: 10 Overhead and Profit; 15 Inflation; Abnormals.

Not applicable / available: 12 Other Development / Project Costs; 14 Client Risks, Furniture and Equipment (F&E); Pre-construction Fees; Regulatory Fees.

Chart 42: Elemental Construction Cost Benchmarks for Ministry of Defence: New Build (Single Living Accommodation)

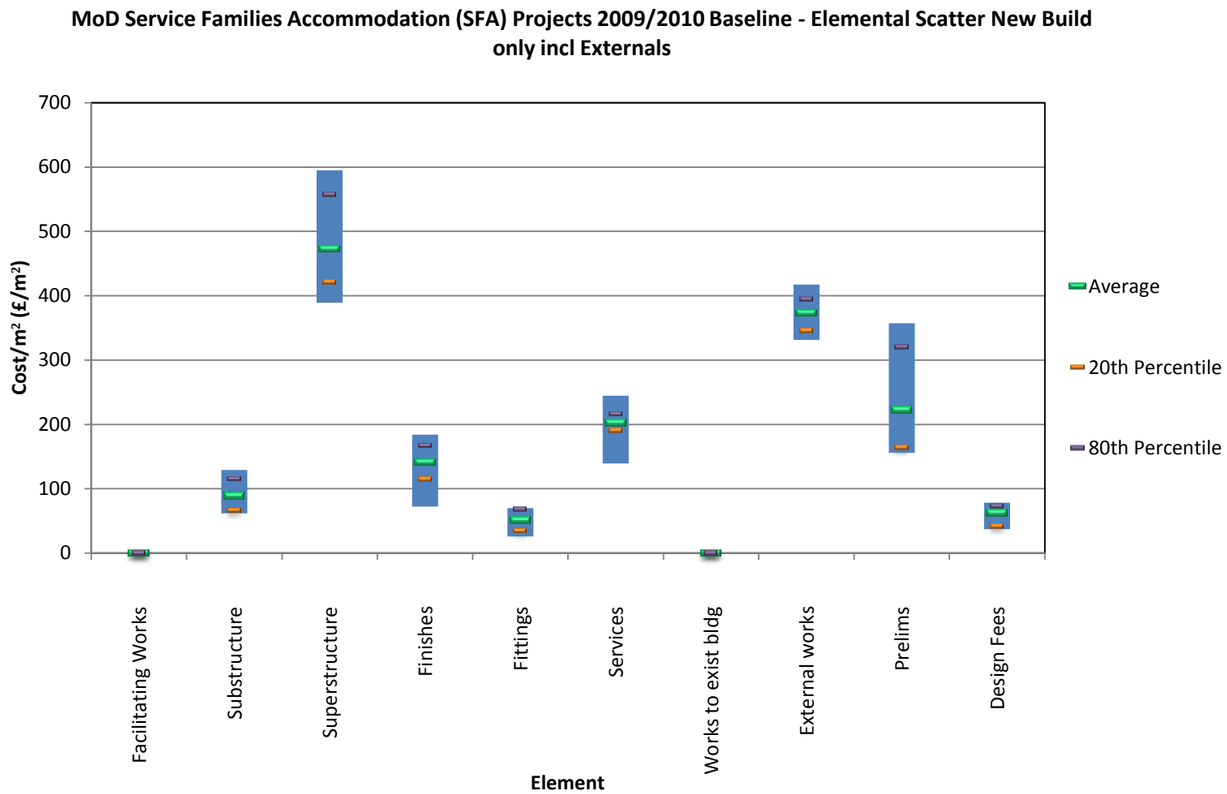


Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	120	0	18	0	30
Substructure	171	33	73	51	89
Superstructure	841	367	558	472	623
Finishes	179	1	106	85	129
Fittings	143	39	67	48	80
Services	395	187	289	238	326
Works to exist bldg	35	0	1	0	0
External works	369	68	151	106	199
Prelims	534	189	330	279	387
Design Fees	92	23	48	33	61

Included across elements: Overheads & Profit; Risk; Inflation

What this cost data represents: Normalised to a mean UK location new build cost data (£/m^2) at constant 2009/10 prices for 62 new build SLAM projects. All costs are based on BIS PUBSEC Index of 167.5 and Location Factor of 100 and are as detailed within the agreed Target Price at Contract Award.

Chart 43: Elemental Construction Cost Benchmarks for Ministry of Defence: New Build (Service Families Accommodation)

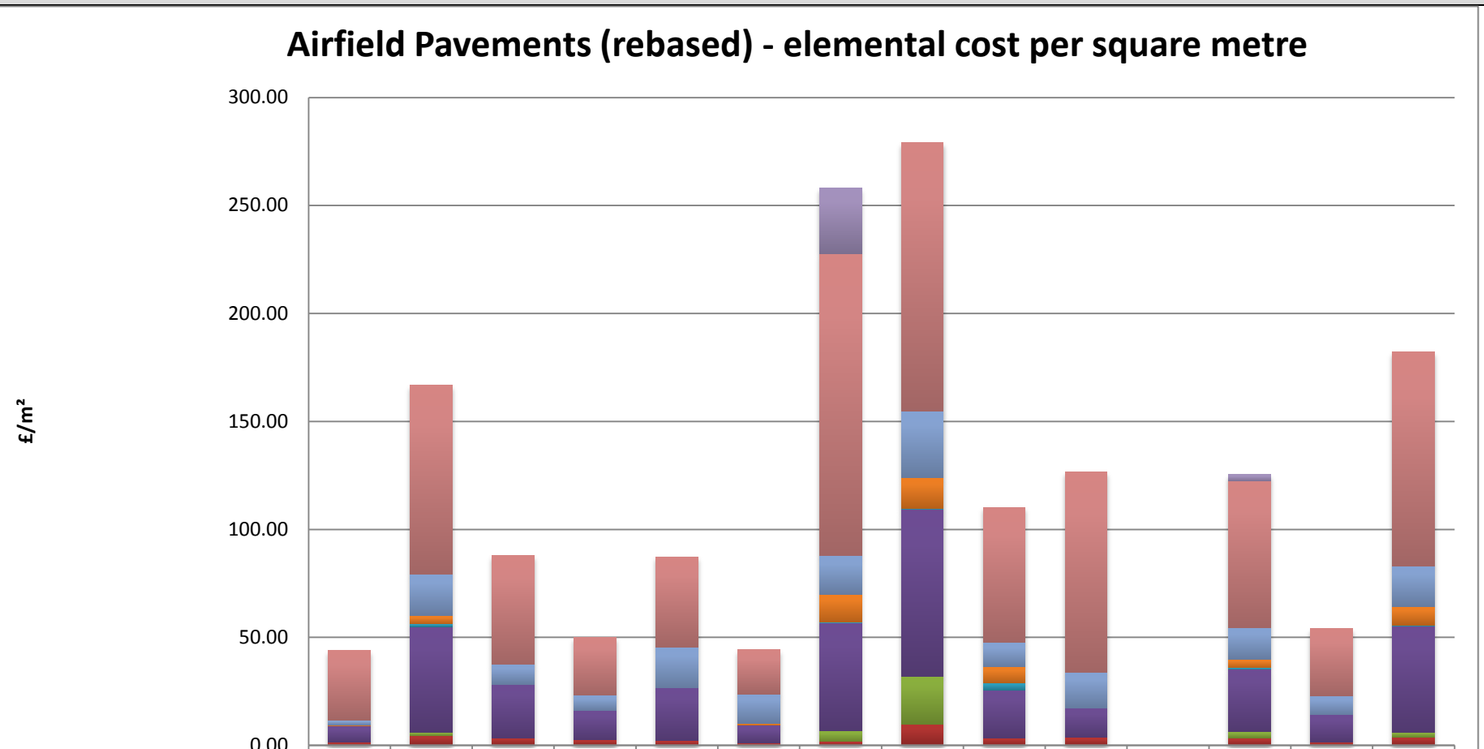


Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	0	0	0	0	0
Substructure	129	62	89	66	115
Superstructure	595	389	472	421	557
Finishes	184	72	141	114	167
Fittings	70	26	51	35	68
Services	245	139	202	190	216
Works to exist bldg	0	0	0	0	0
External works	418	331	374	345	395
Prelims	357	156	223	164	320
Design Fees	78	37	62	42	73

Included across elements: Overheads & Profit; Risk; Inflation

What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for 418 new build SFA houses on 5 projects. All costs are based on BCIS All-in Tender Price Index of 214 and Location Factor of 100 and are as detailed within the agreed Target Price at Contract Award.

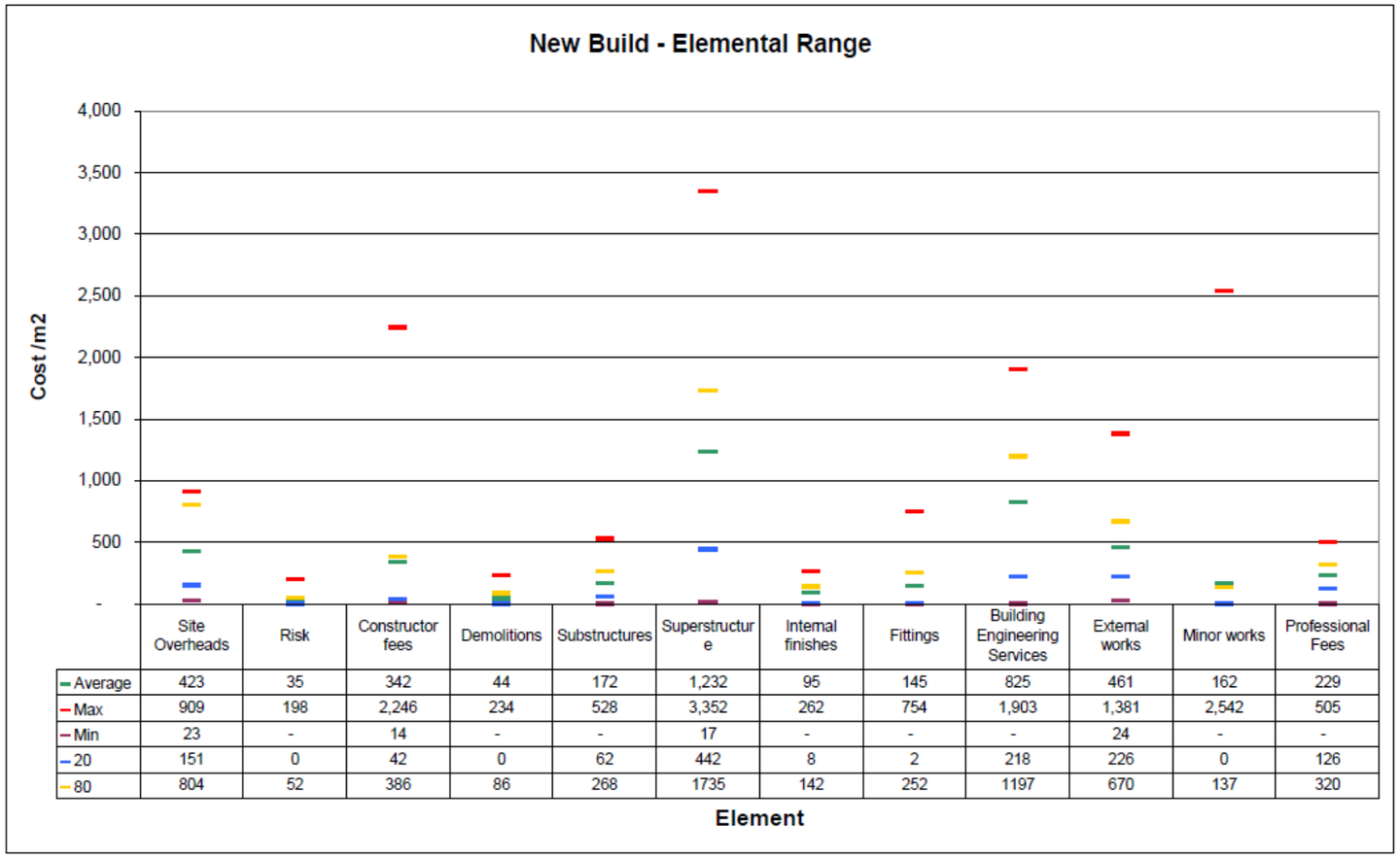
Chart 44: Elemental Construction Cost Benchmarks for Ministry of Defence: Airfield Pavements



	a	b	c	d	e	f	g	h	j	k		Ave	20th	80th
Substructures	0.00	0.00	0.00	0.00	0.00	0.00	30.21	0.00	0.00	0.00		3.02	0.00	0.00
Pavement	32.30	87.42	50.17	26.95	41.94	20.30	140.10	124.33	62.71	92.65		67.89	31.23	98.98
Pavement Completion	2.31	19.36	9.22	7.03	18.68	13.66	17.85	30.85	11.16	16.45		14.66	8.78	18.82
External Works	0.28	3.72	0.00	0.00	0.00	0.84	12.92	14.10	7.52	0.00		3.94	0.00	8.60
Facilitating Works	0.00	1.21	0.00	0.00	0.00	0.10	0.36	0.38	3.27	0.00		0.53	0.00	0.54
Preliminaries	7.60	48.84	24.78	13.51	24.54	8.05	50.00	77.28	22.06	13.84		29.05	12.42	49.07
Site related temporary works	0.00	1.71	0.00	0.00	0.00	0.00	4.88	22.14	0.00	0.00		2.87	0.00	2.34
Design Fees	1.43	4.43	3.51	2.54	2.10	1.14	1.68	9.89	3.48	3.56		3.37	1.63	3.73
Other development costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00

What this cost data represents: Normalised cost data (£/m^2) at constant 2009/10 prices for 10 airfield pavement projects. All costs are based on BIS PUBSEC Index of 167.5 and Location Factor of 100 and are as detailed within the agreed Target Price at Contract Award. The cost of Overheads and Profit, and Commercial Risk has been spread across the elements.

Chart 45: Elemental Construction Cost Benchmarks for Ministry of Justice: New Build (Various Project Types)



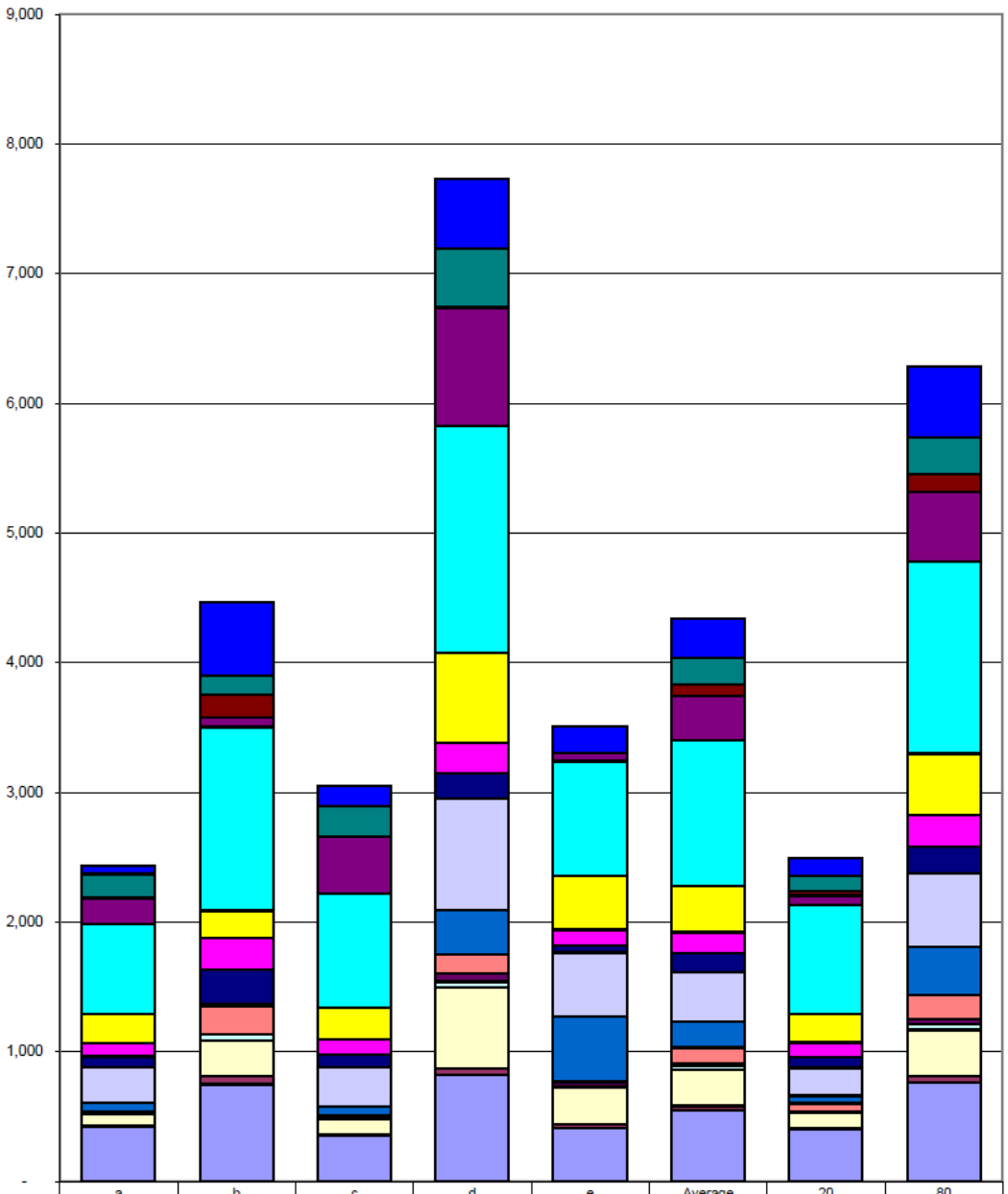
	Site Overheads	Risk	Constructor fees	Demolitions	Substructures	Superstructure	Internal finishes	Fittings	Building Engineering Services	External works	Minor works	Professional Fees
Average	423	35	342	44	172	1,232	95	145	825	461	162	229
Max	909	198	2,246	234	528	3,352	262	754	1,903	1,381	2,542	505
Min	23	-	14	-	-	17	-	-	-	24	-	-
20	151	0	42	0	62	442	8	2	218	226	0	126
80	804	52	386	86	268	1735	142	252	1197	670	137	320

Element

What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for the range of project types given in 12: Kitchens, House Blocks, New Prisons, Ancillary Buildings (incl. prison workshops) and Court Buildings. The sample represents 21 new build projects.

Chart 46: Elemental Construction Cost Benchmarks for Ministry of Justice (Kitchens)

What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for 5 kitchen projects.

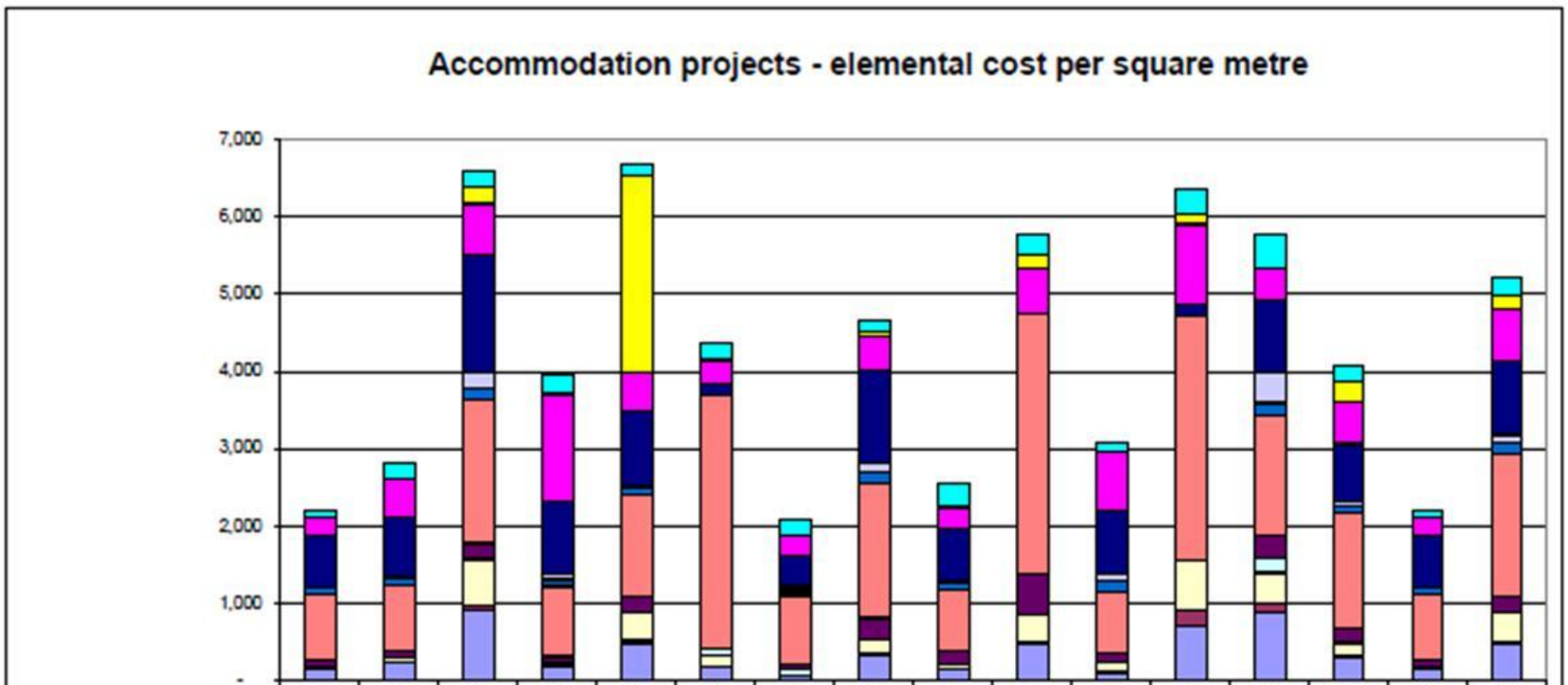


	a	b	c	d	e	Average	20	80
Professional Fees	67	563	160	539	205	307	141	544
Other	186	147	237	457	-	205	117	281
Minor works	-	179	-	-	-	90	36	143
External works	199	72	437	911	65	337	70	532
Building Engineering Services	696	1,418	882	1,752	881	1,126	844	1484
Fittings	221	212	245	694	420	358	219	474
Internal finishes	106	243	118	239	120	165	115	239
Superstructure sub division	84	263	96	195	57	139	79	209
Superstructure Envelope	270	-	299	859	489	383	216	563
Substructures	69	14	71	345	500	200	58	376
Demolitions	-	217	-	140	8	122	61	186
Regulatory fees	4	-	4	66	29	21	3	37
Pre-Construction Fees	15	55	21	44	8	29	13	46
Fees from Specialist sub-consultants	94	271	123	624	286	280	117	353
Risk	8	63	8	48	30	31	8	51
Site Overheads	417	746	351	822	410	549	398	762

.

Chart 47: Elemental Construction Cost Benchmarks for Ministry of Justice (Prison Accommodation Projects)

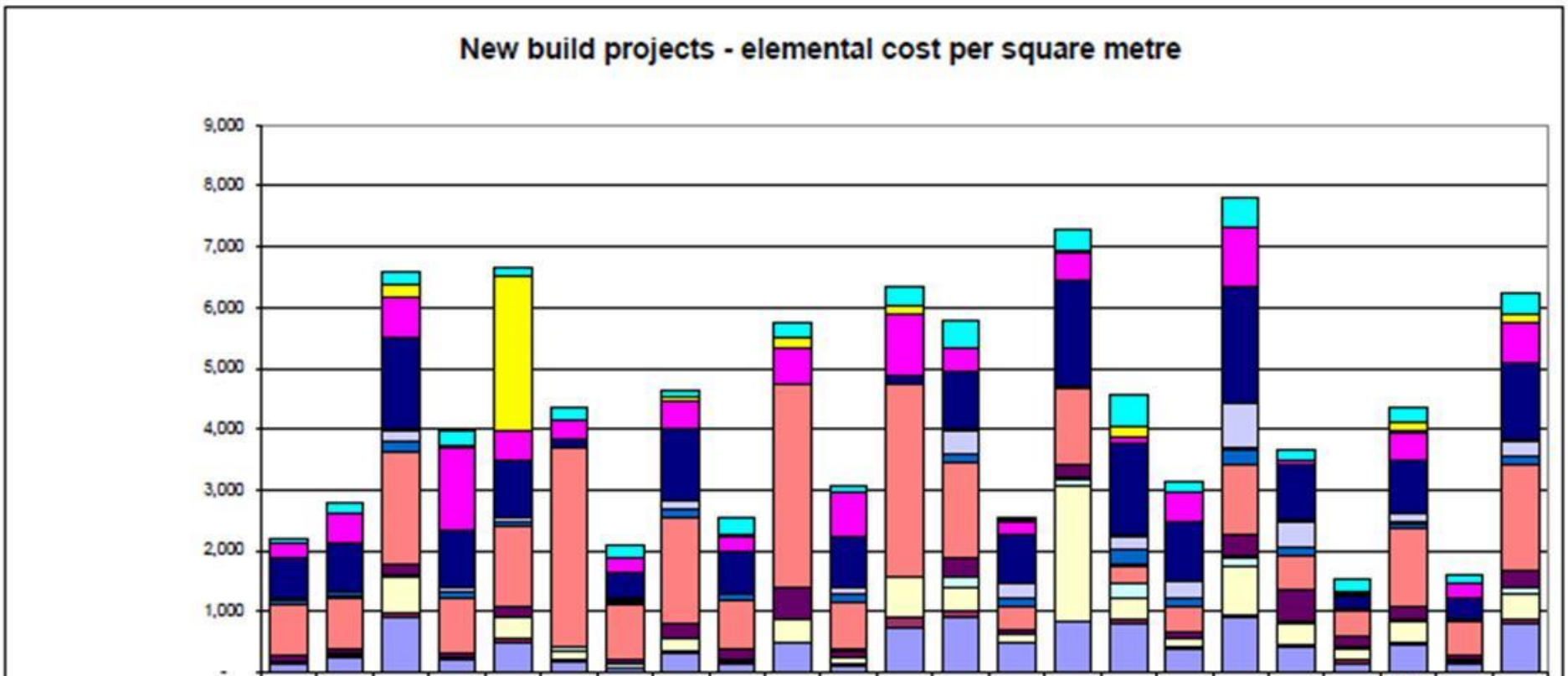
What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for Accommodation projects.



	a	b	c	d	e	f	g	h	i	j	k	l	m	Average	20	80
Professional Fees	96	196	215	243	143	223	206	126	294	262	118	320	434	193	96	243
Minor works	-	-	204	17	2,542	-	-	64	-	174	4	137	-	273	0	174
External works	226	493	670	1,381	494	310	249	437	272	591	744	1,028	409	533	226	670
Building Engineering Services	672	777	1,503	938	954	134	402	1,197	677	-	830	146	938	735	672	954
Fittings	16	18	200	75	52	-	55	135	19	-	100	-	401	61	16	100
Internal finishes	81	84	166	90	68	-	63	140	87	-	142	-	151	84	81	140
Superstructure	849	852	1,848	907	1,323	3,280	888	1,735	803	3,352	779	3,172	1,560	1,510	849	1848
Substructures	92	90	196	88	191	-	62	268	174	519	130	-	301	164	92	196
Demolitions	-	-	23	0	-	86	80	-	-	-	-	-	182	17	0	23
Constructor fees	25	42	586	35	357	144	14	200	54	365	95	641	386	174	25	357
Risk	-	-	63	-	50	17	-	22	4	11	29	198	119	18	0	29
Site Overheads	149	251	909	191	490	172	58	323	155	486	107	714	890	299	149	486

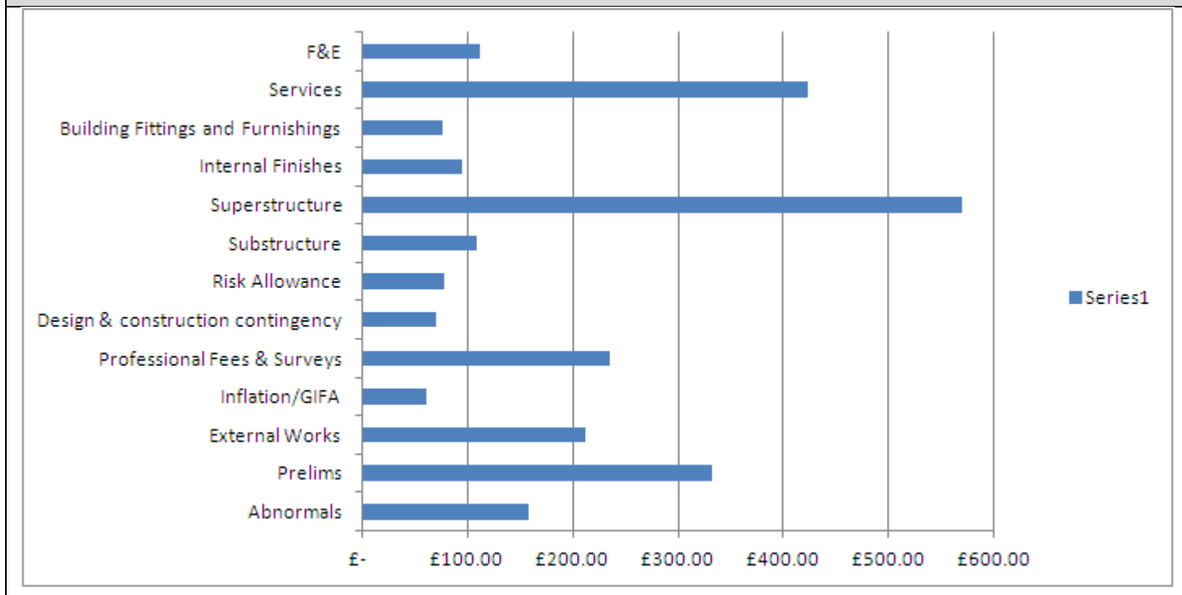
Chart 48 : Elemental Construction Cost Benchmarks for Ministry of Justice (New Build Projects)

What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for New Build projects.



	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	Average	20	80
Professional Fees	96	196	215	243	143	223	206	126	294	262	118	320	434	63	332	505	149	487	180	222	241	140	323
Minor works	-	-	204	17	2,542	-	-	64	-	174	4	137	-	-	46	193	-	-	-	-	169	0	144
External works	226	493	670	1,381	494	310	249	437	272	591	744	1,028	409	227	440	77	489	990	69	59	483	227	685
Building Engineering Services	672	777	1,503	938	954	134	402	1,197	677	-	830	146	938	793	1,757	1,528	988	1,903	930	218	864	365	1258
Fittings	16	18	200	75	52	-	55	135	19	-	100	-	401	252	29	228	275	754	443	-	153	13	256
Internal finishes	81	84	166	90	68	-	63	140	87	-	142	-	151	120	-	262	132	259	127	16	99	13	144
Superstructure	849	852	1,848	907	1,323	3,280	888	1,735	803	3,352	779	3,172	1,560	403	1,252	284	442	1,146	576	409	1,293	549	1757
Substructures	92	90	196	88	191	-	62	268	174	519	130	-	301	79	224	15	80	375	528	180	180	75	275
Demolitions	-	-	23	0	-	86	80	-	-	-	-	-	182	-	120	234	-	153	8	40	46	0	93
Constructor fees	25	42	586	35	357	144	14	200	54	365	95	641	386	128	2,246	351	166	798	342	190	358	51	426
Risk	-	-	63	-	50	17	-	22	4	11	29	198	119	10	-	68	8	52	32	40	36	0	54
Site Overheads	149	251	909	191	490	172	58	323	155	486	107	714	890	475	822	804	393	893	433	151	443	154	808

Chart 49: Elemental Construction Cost Benchmarks for DfE / Education Funding Agency: New Build (Secondary Schools)



All figures are £/m^2 at 2009/10 prices. PUBSEC Sec 173 (Location Factor = 1)

Abnormals	Prelims	External Works	Inflation/GIFA	Professional Fees & Surveys	Design & construction contingency	Risk Allowance	Substructure	Superstructure	Internal Finishes	Building Fittings and Furnishings	Services	F&E
£ 157.94	£332.49	£212.34	£ 60.18	£ 235.35	£ 70.24	£ 77.07	£ 109.16	£ 570.35	£ 94.95	£ 75.65	£423.56	£110.93

What this cost data represents: Single point averages for the normalised new build cost data at constant 2009/10 prices given in Table 13 above.

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A

General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)
What the data represents	Benchmarks are based on capital cost (£) per m^2 (Gross Internal Floor Area) for eight high level generic types of healthcare building and their combined values. Benchmarks are collected at contract award (Guaranteed Maximum Price – GMP). For comparison purposes all costs (£/m^2) are adjusted (normalised) to the same tender price level and location factor of the 2009/10 baseline: BIS PUBSEC Tender Price Index of Public Sector Building Non-Housing: 173 Location factor of 1.00 using the BCIS (The Building Cost Information Service of RICS) Location study.	Outturn costs relating to Flood and Coastal Risk Management (FCRM) investment. Type 1 benchmarks: Walls and embankments form about 65% of EA's total construction spend. EA's construction database captures data from at least 50% (in earlier years of database) of EA projects by value. Type 2 and 3 benchmarks: Both sets of figures relate to the entire capital programme. In relation to the Type 3 benchmark Programme "Streamlining", a smaller percentage indicates a greater proportion of FCRM programme being invested in works on the ground.	The 2009/10 baseline benchmarks presented are based on total project cost estimates from seventeen major projects. These estimates have been derived from the Highways Agency's estimating system. The estimates incorporate allowances for inflation relating to anticipated project start dates. The benchmarks are the mid-point between the calculated min (P10) and max (P90) estimated project value. The 2010/11 and 2011/12 benchmarks are based on total project cost estimates at contract award stage. The total project cost estimate at contract award is the negotiated contract price plus historic costs and agreed client managed future cost and risk allowances. These estimates include inflation allowances covering the project duration. 2010/11 estimates are a mid point as per the 2009/10 estimates. The 2011/12 estimates are a summation of estimates Min (P10), Most Likely and Max (P90) modelled to create a P50 outturn. The 2013/14 estimates for managed motorways projects are "All Lane Running (ALR)" previous years managed motorway projects were 2 number Design Build Finance and	Benchmark data covers both new build (Affordable Homes Programme) and refurbishment (Decent Homes Backlog programme). It is presented for England as whole and at the sub-national level (HCA Operating Area) for new build, where costs tend to be more comparable. London data has been excluded, since from April 2012 the GLA has taken on responsibility for the delivery of housing funding programmes in London. **New Build:** Annualised figures cover homes starting on site in the stated year. HCA funding for a scheme is not equivalent to construction costs. Delivery partners will use a mixed funding package (with HCA funding as one element) to cover the total construction costs (including land and on-costs as well as the costs of construction). HCA funding is paid 50% at start on site and 50% at scheme completion in most cases, with the exception of private developers who receive 100% of their HCA funding at completion. Construction cost data used for benchmarking is confirmed by HCA delivery partners at start on site and will therefore generally represent the delivery partner's contract award data. Construction cost data is validated through the HCA's Compliance Audit process. Pre-2011/12 data (including the baseline year 2009/10) does not allow distinction between flats and houses, and these are therefore combined. In relation to the rent sub-categorisation, where developments contain a mixture of general needs and supported/older persons housing, the majority of the development by the number of homes has been used to determine under which category they are included. Such judgement has been used in a very small number of instances as the majority of schemes are either 100% general needs or 100% supported/older

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A

General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)
			Operate (DBFO) All Lane Running (ALR) Schemes. There were 2 number Junction Improvement schemes which were complex projects.	persons housing. The data population for supported/older persons housing is relatively small for some years and individual areas, and therefore more sensitive to the impact from outliers. Where the number of such schemes is less than 10 in any given year in an area then the 20th and 80th percentile information has not been presented due to the potential for excessive distortion. **Refurbishment:** Refurbishment data presented is a proxy for outturn construction costs in the Decent Homes (DH) Backlog capital programme, funding necessary refurbishment work by local authority landlords. Data is drawn from local authority reports on capital works expenditure (a wider set of activity than DH works, and to a wider set of properties) by authorities receiving DH Backlog grant at some point in 2011-15.
Statistical population represented	For comparison purposes all data is normalised to the 2009/10 baseline. The numbers of projects making up each of the various figures in the 2009/10 baseline in Table 5 are as follows: Acute - New Build (48); Acute - Refurbishment (31); Mental Health - New Build (24); Mental Health - Refurbishment (10); Primary Care/Community - New Build (10); Primary Care/Community - Refurbishment (7);	The Type 1 benchmark figures for walls and embankments are drawn from 32 and 19 projects respectively. The Type 2 and 3 benchmark figures relate to the entire capital programme.	The number of projects making up each of the various figures in Table 7 is as follows: Baseline 2009/10 – 17 projects Managed Motorway (11) Junction Improvement (1) Trunk Road Improvement (5) 2010/11 update – 2 projects Managed Motorway (1) Junction Improvement (1) 2011/12 update – 5 projects Managed Motorway (3) Trunk Road Improvement (2)	**New Build:** The data population used for baseline and benchmark summary statistics represents all homes within the Affordable Housing Programme starting on site in a given year. The number and type of schemes in a given year, and the mix of building types (house/ flat; bedroom number) on a given scheme, will vary. Details for the number of affordable housing schemes/projects and homes covered in the benchmark data for the 2009/10 to 2013/14 period is shown below:

	2009/10	2010/11	2011/12	2012/13	2013/14
Total no. of schemes	2,197	1,996	723	1,251	2,101

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A

General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)					
	Other - New Build (10); Other - Refurbishment (4); All Schemes - New Build (92); All Schemes - Refurbishment (52); All Schemes - (New Build and Refurbishment) (144). These 2009/10 baseline projects reached contract award from 2003 onwards; The numbers of projects making up each of the various figures in the 2011/12 benchmarks in Table 5 are as follows: Acute - New Build (5); Acute - Refurbishment (6); Mental Health - Refurbishment (3); All Schemes - (New Build and Refurbishment) (14). The numbers of projects making up each of the various figures in the 2011/12 benchmarks in Table 5 are as follows: Acute - New Build (5); Acute - Refurbishment (6); Mental Health - Refurbishment (3); All Schemes - (New Build and Refurbishment) (14). The numbers of projects making		2012/13 update – 3 projects Managed Motorway (2) Trunk Road Improvement (1) The benchmark rates include two trunk road projects that moved into the construction phase in Feb/Mar 2012. The figures have been calculated from approved project budget allowances (including design and Highways Agency managed risk) following the successful negotiation of the Final Target Cost (FTC). Hence the allowances incorporate the FTC. 2013/14 update – 6 projects Managed Motorway (4) Junction Improvement (2) The Junction Improvements were both complex interchanges 1. Works to junction, new slip and widening of motorway 2. Works to junction, new underpass	Total no. of schemes (rent)	1,562	1,410	534	939	1,617
				Total no. of schemes (LCHO)	635	586	189	312	484
				Total no. of rent schemes (general needs)	1,401	1,282	490	866	1,496
				Total no. of rent schemes (sup/older)	161	128	44	73	121
				Total no. of homes	26,396	22,209	8,540	15,233	23,080
				Total no. of homes (rent)	20,900	17,676	7,242	12,642	19,804
				Total no. of homes (LCHO)	5,496	4,533	1,298	2,591	3,276
				Total no. of rent homes (general needs)	17,441	14,919	6,122	10,626	17,132
				Total no. of rent homes (sup/older)	3,459	2,757	1,120	2,016	2,672

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A				
General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)
	up each of the various figures in the 2012/13 benchmarks in Table 5 are as follows: Acute - New Build (10); Acute - Refurbishment (17); All Schemes - (New Build and Refurbishment) (27). The numbers of projects making up each of the various figures in the 2013/14 benchmarks in Table 5 are as follows: Acute - New Build (12); Mental Health - New Build (5); Other - New Build (5); Acute - Refurbishment (5); Mental Health - Refurbishment (4) All Schemes - (New Build and Refurbishment) (31).			**Refurbishment:** The data population used for baseline and benchmark summary statistics covers all capital works by Local Authorities for those Authorities receiving Decent Homes Backlog Funding at some point in 2011-15. Cost definitions within this data collection are open to some interpretation. A number of factors impact on interpretation of this information and HCA influence on these specific indicators: • The works necessary to achieve the Decent Homes Standard will vary from case to case, depending on the starting condition of the stock and the interpretation of outcome based elements of the standard, and covers a wide range of elemental works (i.e., there is variation in both the set of elemental works conducted - bathroom replacement, window replacement, rewiring etc - and the extent of works within each element). It is assumed that these differences average out in inter-year comparison across the time series. • Available cost data is collected for all capital works to stock, not exclusively that within a funded Decent Homes programme, and shown for all LAs receiving funding at some point in CSR 11-15. Note the data set presented has been generated for the purpose of this document. **New Build:** Construction costs shown exclude land acquisition and design fees and other on costs. Data shown excludes: • package deals, for which the disaggregation of historic data into land and build components is unreliable, these account for approximately 10% of total spend; • refurbishment schemes, for which costs are atypical, these account for approximately 5% of total spend (although the

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A				
General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)
				Affordable Homes Programme primarily funds new build construction, a small proportion of this programme funds refurbishment that brings additional homes into use as affordable housing).
What is included / excluded in the figures	The figures are based on capital building costs (excluding external works for ease of comparative normalisation) with due allowance for Preliminaries, Contingencies / Contractor's Risk and Supply Chain Design Fees. **Refer to Annex B for more detail.**	**Refer to Annex for more detail.**	All benchmarks are calculated from overall project costs i.e. client and contractor costs. The figures therefore incorporate everything required for the project to be delivered, i.e. construction prices, contractor's inflation & risks and client risk allowances. **Refer to Annex B for more detail.**	All benchmarks are calculated from overall project costs, i.e., client and contractor costs. The figures therefore incorporate everything required for the project to be delivered such as construction prices, contractors inflation & risks and client risk allowances for example Refer to Annex B for more detail.
Where the data comes from	Elemental Cost analyses provided by Principal Supply Chain Partner (PSCP) Quantity Surveyor at contract award.	Data is supplied by EA's Contractors and processed by Client Quantity Surveyors.	The 2009/10 baseline benchmark data has been generated from Highways Agencies estimating system Subsequent period benchmarks (e.g. 2010/11, 2011/12, 2012/13 & 2013/14)) will be informed by agreed contract prices and client budget/risk allowances.	**New Build:** Submitted by HCA delivery partners. **Refurbishment:** Cost data is collected through the Local Authority Business Plan Statistical Appendix (BPSA). From 2011/12 onwards data is collected from the Local Authority Housing Statistics (LAHS).
How it has been calculated	Overall Single Point Averages have been calculated for the total range of each project type. The 20%/80% percentile/cluster thresholds have been determined by excluding the lowest and highest 20% of project values to confirm the range. The basis for the baseline 2009/10 is contract award value (GMP) for building costs (£/m2) reported at	**Type 2 benchmarks:** Programme benefit cost ratio for 2009/10 and 2010/11 relates to the cumulative figure for the SR2007 spending review period. EA is now measuring the cumulative figure over the SR2011 spending review period which starts from 2011/12. **Type 3 benchmarks:** Programme "Streamlining" based on 3 year rolling	2009/10 baseline benchmark average is a straight arithmetic mean of the SR10 project P50 costs. The average of subsequent benchmarks (e.g. 2010/11, 2011/12, 2012/13 and 2013/14) will be an arithmetic mean of the project P50 costs. The Highways Agency is able to calculate each project cost using	For both New Build and Refurbishment, the 2009/10 baseline data consists only of projects started on site during 2009/10.

Table 16: Commentary relating to Department Cost Benchmark Data Provided in Charts 6 to 18, Tables 5 to 8 and Annex A

General areas to be addressed by commentary	**Department of Health (P21 Framework)** (with reference to Table 5 above)	**DEFRA/Environment Agency** (with reference to Table 6 above)	**DfT/Highways Agency** (with reference to Table 7 above)	**DCLG/Homes & Communities Agency** (with reference to Table 8 above and Annex A below)
	2009/10 tender levels (MIPS 480/PUBSEC 173) with a location factor of 1.00. For comparison purposes all data is reported at the same level as the 2009/10 baseline (PUBSEC 173 and location factor of 1.00).	average. **Type 4 benchmarks:** Unit cost of embankments and flood walls based on 5 year rolling average. Single point averages represent a straight arithmetical mean, with no exclusion of outliers. Percentile thresholds have been determined solely using the distribution of data. The index used for the Type 1 benchmarks is the Public Works Non-Roads (PWNR) cost index. This index has now been discontinued and BCIS has issued guidance on using a substitute. The guidance is to use the old PWNR numbers for any date up to Q2 2009, and from that point use the new "BIS Output Price Index for New Construction (2010): Public Non-Housing" index, multiplied by a conversion factor of 1.448 (and then rounded to the nearest whole number).	probabilistic three point estimating and estimating software with Monte Carlo simulation capability. Based upon the principles of three point estimating the minimum, most likely and maximum cost for every activity is used to the produce the estimates. The Highways Agency therefore provides an 80% confidence probability by reporting the P10, P50 and P90 costs. This could be for individual schemes or a group of schemes or portfolio of schemes.	
Other areas	All P21 framework schemes, used in the 2009/10 baseline, are based on the NEC2 Option C Form of Contract; the subsequent P21+ framework, based on the NEC 3 Option C Form of Contract, provides the data for subsequent years.	Data is obtained from contracts delivered through EA's existing framework arrangements. All contracts since April 2007 have been let under NEC3.	Projects M1 J10-J13 & M1 J19 are let using the Highways Agency Early Contractor Involvement contract based on the NEC Option C Subsequent Managed Motorway projects are let using the Highways Agency NEC 3 Framework contract with Z clauses.	The HCA does not directly contract with builders but funds housing providers to procure the purchase and build of new housing and refurbishment works. The HCA does not prescribe a standard form of contract for housing providers to enter into with the builder, developer or contractor and as such the construction contracts represented in the data may be in a variety of forms. For new build: • the data is based on the agreed price for these contracts at the beginning of the contract period; • HCA funding for a scheme is not equivalent to construction costs.

Table 17: Commentary relating to Department Cost Benchmark Data Provided in Charts 19 to 23 and Tables 9 to 14

General areas to be addressed by commentary	**Ministry of Defence** (with reference to Table 9 above)	**Ministry of Justice** (with reference to Table 12 above)	**DfE / Education Funding Agency** (with reference to Table 13 and 14 above)
What the data represents	Benchmarks cover all Single Living Accommodation projects let under MoD's Single Living Accommodation Modernisation (SLAM) programme and more recently (13/14) a number of larger 'stand-alone' contracts which include an SLA component. The sample is split between generic types of accommodation, or - where a mixture of accommodation has been contracted as a single package -, a 'Mixed Provision' category. Total Target Price (**contract award**) derived benchmarks are expressed as unit rates based on Gross Internal Floor Area (GIFA) of the facility (£/m^2) and the number of bedspaces provided (£/Bed). A **Type 2** benchmark addressing design efficiency has been provided by dividing the <u>total</u> area of the building (both functional and circulation) by the number of bedspaces and expressing this as 'm^2 GIFA per Bed'. Service Family Accommodation (SFA) benchmarks cover projects let by MoD since June 2008. The sample covers a range of generic types of accommodation. Total Target Price (**contract award**) derived benchmarks are expressed as unit rates based on Gross Internal Floor Area (GIFA) of the facility (£/m^2) and the cost per house (£/House). **Airfield Pavement** Benchmarks cover projects let by MoD since June 2004. The sample is split between pavement and resurfacing projects and resurfacing projects only. Total Target Price (**contract award**) derived benchmarks are expressed as unit rates based on the area of the works undertaken (£/m^2).	The benchmarks cover the entire MoJ construction programme. **Type 1 benchmarks** are collected for comparison & benchmarking at **contract award** (Agreed Maximum Price - AMP) stage. Outturn benchmarks are typically the same as at AMP stage. Moving forward Type 1 benchmarks provided in this publication may not be reported in every period due to the changing project profile of the MoJ programme. **Type 3 benchmarks** are based on the increase of the product value element of the Cost Component Breakdown (CCB). An increase in the product value indicates reduced spend on the non product items such as fees, main contractors overheads etc and increasing the value of the product CCB model is completed with prices current at the time of the AMP (**contract**) award. As the output is a ratio all prices are effectively self updating.	**Contract award** benchmarks are for the total construction cost including all elements but excluding ICT costs but do include ICT infrastructure Over 85% of the DfE / EFA total programme is covered by the benchmarks.

Table 17: Commentary relating to Department Cost Benchmark Data Provided in Charts 19 to 23 and Tables 9 to 14

General areas to be addressed by commentary	**Ministry of Defence** (with reference to Table 9 above)	**Ministry of Justice** (with reference to Table 12 above)	**DfE / Education Funding Agency** (with reference to Table 13 and 14 above)
Statistical population represented	The statistical samples represented by the data in Tables 9 to 11 are as follows: **SLA New Build:** Ensuite Rooms – Flatlet format (32 Projects.) Ensuite Rooms – Hotel format (13 Projects) Dormitories – 12 Bed format (8 Projects) Study Dormitories - 4 Bed format (5 Projects) Senior NCO/Junior Officers (24 Projects) Mixed Provision (19 Projects) **SLA Refurbishment:** 12 Bed Dormitories (2 Projects) Senior NCO/Junior Officers (1 Project) The total value of the above Projects (without re-basing to 2009/10)) is approximately £961m and represents the entire programme of Single Living Accommodation, both new build and refurbishment. The 2009/10 baseline data includes projects from a wider population dating from before 2009/10. **SFA New Build:** Type C – 3 bedrooms (245 houses – 4 house types – 2 Projects) Type D – 4 bedrooms (131 houses – 9 house types – 4 Projects) Type III – 4 bedrooms (9 houses – 1 house type – 1 Project) Type V – 3 bedrooms (33 houses – 2 house types – 1 Project) The total value of the above Projects (without re-basing to 2009/10) is approximately £76m and represents the programme of new MoD constructed Service Family Accommodation. The 2009/10 baseline data includes projects from a wider population dating between 2008/09 and	The numbers of projects making up each of the various figures in Table 12 is as follows: Kitchens – 1 project (12/13 1 project) Houseblocks – 6 projects New Prisons – 2 projects New Ancillary – 8 projects (12/13 4 projects) New Courts – 4 projects Prison: General Minor Refurbishment – 32 projects Prison: Major Refurbishment – 6 projects 1 (12/13 1 project) Major M & E - Fire & General Alarms – 4 projects	The 2009/10 baseline includes projects from a wider population from before 2009-10, which in total represents approx. 230 schools. Subsequent years have populations of circa 30-40 schools.

Table 17: Commentary relating to Department Cost Benchmark Data Provided in Charts 19 to 23 and Tables 9 to 14			
General areas to be addressed by commentary	**Ministry of Defence** (with reference to Table 9 above)	**Ministry of Justice** (with reference to Table 12 above)	**DfE / Education Funding Agency** (with reference to Table 13 and 14 above)
	2011/12. **Airfield Pavements:** Pavement and resurfacing projects – 3 Projects Resurfacing only projects – 7 Projects The total value of the above Projects (without re-basing to 2009/10)) is approximately £94m. The 2009/10 baseline data includes projects from a wider population dating between 2004/05 and 2011/12.		
What is included / excluded in the figures	The figures are based on the total Target Price (with Maximum Price Target Cost arrangements) at Contract Award, excluding External Works and Supply Chain Design Fees, with due allowance for Preliminaries; Commercial (Contractors) Risk; Overheads; and Profit. This allows for ease of comparative normalisation, The figures for Airfield Pavements are based on the total Target Price (with Maximum Price Target Cost arrangements) at Contract Award, **Refer to Annex B for more detail.**	Generally includes for everything except VAT, land costs and departmental overhead costs (staff, accommodation etc.). **Refer to Annex B for more detail.**	**Refer to Annex B for more detail.**
Where the data comes from	Data has been formulated by quantity surveyors working for MoD's Defence Infrastructure Organisation with additional technical support from Cost Consultants.	Based on supplier submissions which are verified by cost consultants acting on MoJ's behalf.	Cost data is submitted to DfE/EFA by the quantity surveyor working for the contractor.
How it has been calculated	For Single Living Accommodation, the 2009/10 baseline represents Contract Award values of all projects let up to and including 1Q2010. Projects have been rebased to the mid-point of 2009/10 using the BIS PUBSEC Tender Price Index of Public Sector Building Non-Housing and normalised to a UK mean location (base = 100)	**Type 3 benchmarks:** Single point averages represent the arithmetical mean of all projects included within each category. Percentile thresholds have been determined using the standard percentile calculation within MS Excel. All costs are based on AMP (award). All data provided is within period and therefore has not required inflation adjustment.	Single point averages represent the arithmetical mean. Percentile thresholds have been determined using the standard percentile calculation within MS Excel. For the 2009/10 baseline, data has been normalised using BIS PUBSEC Tender Price Index of Public Sector Building (Non Housing).

Table 17: Commentary relating to Department Cost Benchmark Data Provided in Charts 19 to 23 and Tables 9 to 14			
General areas to be addressed by commentary	**Ministry of Defence** (with reference to Table 9 above)	**Ministry of Justice** (with reference to Table 12 above)	**DfE / Education Funding Agency** (with reference to Table 13 and 14 above)
	using the BCIS Tender Price Location Study (County location) applicable at the mid-point of 2009/10. Single point average and percentile values have been calculated from all values in each range with no exclusion of 'outliers'. The SLAM Prime Contract was originally let in December 2002 (Dec 02 – Dec 07) under a Maximum Price Target Cost arrangement. Phase 2 of the contract (2007 – 2012) represented an extension to the original term and introduced a contract 'Variation of Price' (VOP) condition to take account of the effects of inflation. For all phase 2 projects, provisional VOP allowances were included in Target Costs at Contract Award, based on the RICS FORVOP index. Owing to a series of changes to this contracted index (DTi Output Price Index – All New Construction (1995=100)) the firming up of such allowances has been protracted and only recently concluded. This exercise has necessitated a recast of all benchmark values (including the 2009/10 baseline), which in turn has impacted the year-on-year Cost Reduction achievement values. For Service Family Accommodation (SFA), the 2009/10 baseline represents Contract Award values of all projects let between 2008/09 and 2011/12. Projects have been rebased to the mid-point of 2009/10 using the BCIS All-in Tender Price Index and normalised to a UK mean location (base = 100) using the BCIS Tender Price Location Study (County location) applicable at the mid-point of 2009/10. Single point average and percentile values have been calculated from all values in each range with no exclusion of 'outliers'.		

Table 17: Commentary relating to Department Cost Benchmark Data Provided in Charts 19 to 23 and Tables 9 to 14			
General areas to be addressed by commentary	**Ministry of Defence** (with reference to Table 9 above)	**Ministry of Justice** (with reference to Table 12 above)	**DfE / Education Funding Agency** (with reference to Table 13 and 14 above)
	Benchmarks for Types B, I, II and IV have been calculated using the data from the benchmarked projects as no house types were available to analyse. For Airfield Pavements the 2009/10 baseline represents Contract Award values of all projects let between 2004/05 and 2012/13. Projects have been rebased to the mid-point of 2009/10 using the BIS PUBSEC Tender Price Index of Public Sector Building Non-Housing and normalised to a UK mean location (base = 100) using the BCIS Tender Price Location Study (County location) applicable at the mid-point of 2009/10. Single point average and percentile values have been calculated from all values in each range with no exclusion of 'outliers'.		
Other areas	The projects from which this data is derived have been let under the SLAM Prime Contract using bespoke MoD Conditions of Contract. The data represents the Target Prices at Contract Award. For SFA, the projects from which this data is derived have been let by MoD since June 2008 using bespoke MoD Conditions of Contract. The data represents the Target Prices at Contract Award.	All projects are procured and delivered through Strategic Alliancing Contract using PPC 2000.	All data has come from contracts awarded at financial close and are to be considered outturn (as fixed price contracts) are a mix of national and local authority frameworks and Local Education Partnerships (LEPs).

REGULATED AND WIDER PUBLIC SECTORS: COST BENCHMARK DATA: TABLES

This section addresses cost benchmark data from private companies and the wider public sector. One (London Underground Limited) is part of the wider public sector, wholly owned by Transport for London. Another (Network Rail Limited) is a private sector not-for-dividend company limited by guarantee, which receives grant funding from the Department for Transport and is regulated by the Office of Rail Regulation.

Data is included for primary and secondary schools that has been submitted directly by local authorities. This data has been compiled by Hampshire County Council and East Riding of Yorkshire Council under the auspices of the National Schools Cost Delivery Benchmarking initiative.

Both of the rail sector organisations have major capital expenditure programmes, the implementation of which will be carried out by some of the same suppliers delivering the works discussed elsewhere in this publication.

The Rail Command Paper published in March 2012 - in response to Sir Roy McNulty's review - highlighted that Network Rail is already due to deliver £1.2 billion of efficiency savings by 2014 with at least a further £600 million expected by 2019. The Command Paper sets the challenge to the whole rail industry to close the efficiency gap identified by Sir Roy of £3.5 billion per year by 2019[33].

Sir Roy highlighted scope to reduce unit costs by 30% compared to 2008/09 levels by 2018/19. The current means of assessing the efficiency of Network Rail is the Real Economic Efficiency Measure (REEM), a measure agreed between Network Rail and the Office of Rail Regulation.

[33] *Reforming our Railways: Putting the Customer First* (March 2012) published by the Government in response to Sir Roy McNulty's report of rail value for money: *Releasing the Potential of GB Rail* (May 2011).

Table 18: Construction Cost Benchmarks for London Underground

Project Types	Project Subtypes	Benchmarks	Units	Baseline 3 year average (2008/09, 2009/10, 2010/11)		2011/12		2012/13		2013/14	
				Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile
Renewals and Replacements	Escalators	**Type 2:** Escalator Replacement (10-15m rise)	£m per machine	1.3	Insuff. data	1.1	0.8 1.3	Insuff. data	Insuff. data	Insuff. data	Insuff. data
		Type 2: Escalator JLE Refurbishment (10-15m rise)	£m per machine	0.7	0.6 0.8	Insuff. data	Insuff. data	0.6	0.55 0.7	0.6	0.6 0.7
		Type 2: Escalator non-JLE Refurbishment (10-15m rise)	£m per machine	1.3	0.9 1.6	0.9	0.86 1.0	Insuff. data	Insuff. data	Insuff. data	Insuff. data
	Track	**Type 2:** Ballasted Track Renewal, open section	£m per km	2.5	1.5 5.4	2.2	1.5 3.3	2.2	1.2 7.8	1.9	1.2 5.1
		Type 2: Track Renewal, full reconditioning of deep tube track	£m per km	8.1	3.3 24.8	4.0	2.5 8.5	4.4	2.6 7.8	4.1	3.1 7.7
		Type 2: Drainage replacement, open section	£m per km	2.2	Insuff. data	1.8	0.4 3.4	1.6	0.6 4.3	1.6	1.2 4.6
	Earth structures	**Type 2:** Regrading Embankments and Cuttings	£m per m^2	0.5	0.1 4.9	0.3	0.1 1.5	0.4	0.2 0.9	0.3	0.1 1.0
	Power Systems	**Type 2: Traction Power sub-station upgrades**	£k/kW increment	2.1	1.6 3.0	n/a	n/a n/a	1.0	0.5 2.8	0.9	0.6 1.6

Table 18: Construction Cost Benchmarks for London Underground

Project Types	Project Subtypes	Benchmarks	Units	Baseline 3 year average (2008/09, 2009/10, 2010/11)		2011/12		2012/13		2013/14	
				Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile	Single point average	Range Min - Maxth Percentile
	Systems	**Type 2:** Signalling upgrade (excluding enabling Civils works)	£m per track km	5.4	Insuff. data	5.4	Insuff. data	2.7	1.2 3.1	0.9	0.6 1.6

Chart 50: London Underground Track Renewal

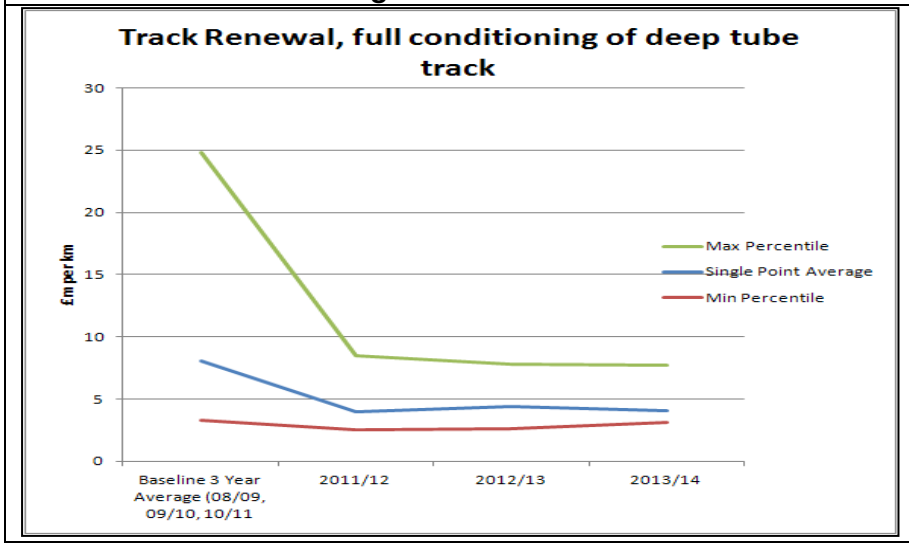
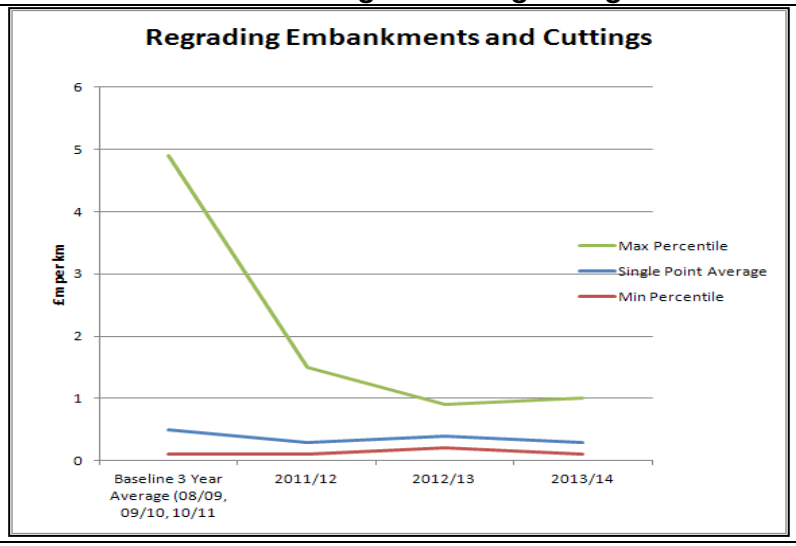


Chart 51: London Underground Regrading Embankments



All figures are in 2008/09 constant prices (i.e. actual costs normalized for RPIx).

Overall, average unit cost reductions compared to the baseline are in the range 14% to 56% in 2013/14, with a mean of 41% for the interventions shown above.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 19: Construction Cost Benchmarks for Network Rail									
Project Types	**Project Subtypes**	**Benchmarks**	**Units**	**2009/10**	**2010/11**	**2011/12**	**2012/13**	**2013/14**[34]	
All Capital Renewal Projects	N/A	**Type 2:** Real Economic Efficiency Measure (REEM)[35] for Renewals against a baseline position in 2008/09	%	7.1	16.6	17.7	14.8		

In addition to the Real Economic Efficiency Measure (REEM), Network Rail Limited publishes a number of unit rates – for example plain line track renewals and signalling / communications - as part of the Regulatory Financial Statements: Statements 14 and 15 which can be found using the following link:
http://www.networkrail.co.uk/browse%20documents/regulatory%20documents/regulatory%20compliance%20and%20reporting/regulatory%20accounts/nril%20regulatory%20financial%20statements%20for%20the%20year%20ended%2031%20march%202013.pdf

[34] Network Rail efficiencies for 2013/14 are not yet finalised. The agreed timescales for the validation and reporting of these efficiencies is 31 July 2014

[35] Measuring renewal efficiency is not an exact science and requires some judgement to assess the difference between a short term reduction in expenditure or deferral of work and a long term sustainable reduction (i.e. efficiency). This requires an assessment of the long term impact of changes in the scope and volume of renewal work and inevitably involves engineering judgement. The percentage efficiencies in the table above are those reported by Network Rail in its regulatory financial statements and represent the company's best view. The Office of Rail Regulation carry out a review of Network Rail's financial performance each year and in its report in September 2011 highlighted the uncertainty with the efficiency assessment. It suggested a lower limit for the cumulative renewal efficiency saving by the end of 2010/11 would be 13.1%.

Table 20: Commentary relating to Cost Benchmark Data Provided in Tables 18 to 19		
General areas to be addressed by commentary	**London Underground**	**Network Rail**
What the data represents	**Outturn** unit costs developed for 39% of LU and Tube Lines capital spend. However, the information in Table 18 only represents 10% of capital costs, since the cost of new rolling stock has been excluded.	Real Economic Efficiency Measure (REEM) is a business performance metric agreed between the ORR and Network Rail. REEM records how costs have changed in real terms (after adjusting for inflation) compared to a base year of 2008/09; hence it measures efficiency improvements since the start of Control Period 4 in April 2009.
Statistical population represented	The data sample represents a small number of high value projects with varying scope. For this reason it has therefore not been possible to include statistically significant P20 to P80 ranges.	For FY 12/13 74% of renewals expenditure is represented by REEM.
What is included / excluded in the figures	Refer to TfL's 2012 Rail and Underground Benchmarking Report: (http://www.tfl.gov.uk/assets/downloads/corporate/tfl-rail-and-underground-benchmarking-report-2012.pdf)	For this publication, only renewals projects efficiencies are being presented. The reported efficiency is based on delivering work in line with the published Delivery Plan.
Where the data comes from		Generated internally by the Network Rail team, and reviewed/audited independently by ARUP.
How it has been calculated	Baseline unit costs are based on a 3 year average (2008/09, 2009/10, 2010/11). The unit costs for 2011/12 are for a single year.	The REEM methodology uses in-year inflation (November RPI) to uplift baseline prices (CP3 exit point). For more detail refer to Annex C.

Table 21: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: New Build Schools

Gross Total Project Cost

Project Subtypes	**Benchmarks**	**Units**	**2013/14**	
			Single point average	Range 20th-80th Percentile
GIFA 0 - 750 m^2	**Type 1:** Total construction cost **[1]**	£/m^2	2920	2555 2720
GIFA 750 - 1500 m^2		£/m^2	2467	2635 2886
GIFA 1500 - 2250 m^2		£/m^2	2645	2338 2897
GIFA 2250 - 3000 m^2		£/m^2	2314	2507 2955
GIFA 3000 - 3750 m^2		£/m^2	Insufficient data for this GFA banding	

Net Total Project Cost

Project Subtypes	**Benchmarks**	**Units**	**2013/14 (Baseline)**	
			Single point average	Range 20th-80th Percentile
GIFA 0 - 750 m^2	**Type 1:** Total construction cost **[1]**	£/m^2	1622	131 1876
GIFA 750 - 1500 m^2		£/m^2	1673	1528 1816
GIFA 1500 - 2250 m^2		£/m^2	1718	1583 1855
GIFA 2250 - 3000 m^2		£/m^2	16089	1474 1754
GIFA 3000 - 3750 m^2		£/m^2	Insufficient data for this GFA banding	

Note [1]: Includes: External works, professional fees, fixed FF+E (fittings, furnishings and equipment); Excludes: Loose FF+E (fittings, furnishings and equipment).

Other notes:

Gross Cost per m2 – Gross Total Project Cost including fees adjusted for location and inflation using the BIS PUBSEC TPI and Regional Location Factors to accord with the UK Mean 100. Costs are indexed to 4th Quarter 2013 and are further defined as outlined in table 24 below.

Table 22: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: New Build Primary Schools

Cost per Pupil

Project Subtypes	**Benchmarks**	**Units**	**2013/14**	
			Single point average	Range 20^{th}-80^{th} Percentile
GIFA 0 - 750 m^2	**Type 1:** Total construction cost **[1]**	£/m^2	11,494	9792 12,316
GIFA 750 - 1500 m^2		£/m^2	14937	10,811 17,062
GIFA 1500 - 2250 m^2		£/m^2	15548	12293 20,255
GIFA 2250 - 3000 m^2		£/m^2	17414	11,779 20,331
GIFA 3000 - 3750 m^2		£/m^2	Insufficient data for this GFA banding	

Note [1]: Includes: External works, professional fees, fixed FF+E (fittings, furnishings and equipment); Excludes: Loose FF+E (fittings, furnishings and equipment).

Other notes:

Cost/Pupil - Total Project Cost data divided by the number of additional pupil places being created in the school.

Where this data has not been available the Agreed Maximum Proce (AMP) data has been divided by the total number of pupils in the school. This data has also been adjusted for location and inflation using the BIS PUBSEC TPI and Regional Location Factors to accord with the UK Mean 100. This cost is further adjusted as outlined in Table 24 below. These figures are an average of the combined total cost of each sample category..

Table 23: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: Refurbishment/Partial New Build Schools

Gross Total Project Cost per m2

Project Subtypes	Benchmarks	Units	2013/14	
			Single point average	Range 20th-80th Percentile
GIFA 0 - 750 m^2	**Type 1:** Total construction cost **[1]**	£/m^2	2477	1867 2806
GIFA 750 - 1500 m^2		£/m^2	1898	1164 1930
GIFA 1500 - 2250 m^2		£/m^2	1478	1019 1950
GIFA 2250 - 3000 m^2		£/m^2	1546	1269 1823
GIFA 3000 - 3750 m^2		£/m^2	Insufficient data for this GFA banding	

Cost/Pupil

Project Subtypes	Benchmarks	Units	2013/14	
			Single point average	Range 20th-80th Percentile
GIFA 0 - 750 m^2	**Type 1:** Total construction cost **[1]**	£/m^2	14,118	9.163 18,193
GIFA 750 - 1500 m^2		£/m^2	10.960	6,497 13,972
GIFA 1500 - 2250 m^2		£/m^2	12,974	10,491 15,602
GIFA 2250 - 3000 m^2		£/m^2	9,851	7,973 11,729
GIFA 3000 - 3750 m^2		£/m^2	Insufficient data for this GFA banding	

Note [1]: Includes: External works, professional fees, fixed FF+E (fittings, furnishings and equipment); Excludes: Loose FF+E (fittings, furnishings and equipment).

Other notes:

Gross Cost per m2 – Gross Total Project Cost including fees adjusted for location and inflation using the BIS PUBSEC TPI and Regional Location Factors to accord with the UK Mean 100. Costs are indexed to 4th Quarter 2013 and are further defined as outlined on page 1.l

Cost/Pupil - Total Project Cost data divided by the number of additional pupil places being created in the school.

Where this data has not been available the Agreed Maximum Proce (AMP) data has been divided by the total number of pupils in the school. This data has also been adjusted for location and inflation using the BIS PUBSEC TPI and Regional Location Factors to accord with the UK Mean 100. This cost is further adjusted as outlined in Table 24 below. These figures are an average of the combined total cost of each sample category..

Table 24: Commentary relating to Primary and Secondary Schools Cost Benchmark Data provided in Tables 21 to 23	
General areas addressed by commentary	**National Schools Cost Delivery Benchmarking**
What the data represents	The format used is consistent with the data presentation used by the Joint Data and Benchmarking Group hosted by the Cabinet Office Efficiency and Reform Group. In this context, the cost benchmark data given below encompasses the following types of benchmark: - Spatial Measures encompass the most common formats used by clients and industry to benchmark total construction costs, which in the case of schools has been taken as £/m². This is related to throughout and, in the case of schools, is the total square metres of accommodation delivered by a project. - Functional Measures in the case of schools has been taken as £/Place.
Statistical population represented	The sample comprises of national school projects classified regionally as South East, North East, London, East Midlands, East of England, West Midlands, Yorkshire & Humber, North West and South West. A standard form for cost analysis has been developed for the study and this has been completed for each of the sample projects. This form contained key elemental cost data on each project within the sample; this data has then been collated at a common price base, in order to compare projects with each other on level terms. Of the projects submitted, 70 are included in this report. This sample consists of the following: - 39 New build primary school projects. - 31 Refurbished primary school projects.

Table 24: Commentary relating to Primary and Secondary Schools Cost Benchmark Data provided in Tables 21 to 23	
General areas addressed by commentary	**National Schools Cost Delivery Benchmarking**
What is included / excluded in the figures	Net Costs per m² represent the tendered Contract Sum less (where applicable) abnormals, site works, external drainage and services, minor building works and alterations, but is inclusive of percentage additions (where applicable) for preliminaries, contingency, overheads and profit. Gross Costs per m² have been arrived at using the tendered Contract Sum inclusive of fees, external works and abnormal costs. All professional fee costs have been included where provided within the sample data. Statutory fees, survey costs, loose furniture and equipment, client department costs including programme management, legal and land acquisition costs are all excluded from all figures shown herein. Fixed fittings and furnishings are included within the figures shown herein.
Where the data comes from	The data has been reproduced with the permission of Hampshire County Council AND East Riding of Yorkshire Council from their National School Delivery Cost Benchmarking programme. It publishes the results of a national cost benchmarking exercise undertaken by Hampshire County Council in partnership with East Riding of Yorkshire Council on new build and refurbished primary school projects. This study has been undertaken with funding from the Local Government Association (LGA), as part of the National Procurement Strategy (NPS), and has been conducted in conjunction with the following organisations: - Education Building and Development Officers Group (EBDOG). - National Association of Construction Frameworks (NACF).

Table 24: Commentary relating to Primary and Secondary Schools Cost Benchmark Data provided in Tables 21 to 23	
General areas addressed by commentary	**National Schools Cost Delivery Benchmarking**
How it has been calculated	All prices have been updated to the latest firm Department for Business, Innovation and Skills (BIS) PUBSEC Tender Price Index of Public Sector Non-Housing work (TPI) of 4th Quarter 2013. All costs have been normalised to a common UK average price level using location factors published by BCIS.

PART 3: USE OF COST BENCHMARKS

DEPARTMENT PROGRESS IN GENERATING PUBLIC PRIVATE COMPARISONS

The Government Construction Strategy sets out a routemap to reduce the costs of construction by 15-20% before the end of this parliament. The publication of departmental cost benchmarks are fundamental to achieving the cost reductions targeted by the Strategy.

The exchange of these cost benchmarks both within Departments and across Government is an essential component in leveraging the value of existing data and ensuring all opportunities to reduce costs are identified and acted upon. The exchange of data with private organisations also offers opportunities to compare practices and identify further efficiencies.

This section therefore provides a progress update on the work being undertaken by Departments to compare their cost benchmarks with those of other public and private construction clients. In reporting progress it is important to understand the key steps involved and that significant work can be required between steps, for example, in determining comparable data structures.

Typically the key steps that Departments are working through are as follows:

Step 1: Identify target organisations with which to initiate engagement;

Step 2: Convene initial meeting(s) to explore and confirm mutual interest to exchange data and/or compare leading practices;

Step 3: Establish the principles under which data and/or information can be exchanged confidentially;

Step 4: Understand respective cost structures and which Group Element costs can be meaningfully compared i.e. those that are comparable and likely to identify efficiency opportunities;

Step 5: On the basis of common structures, prepare and exchange data and/or information;

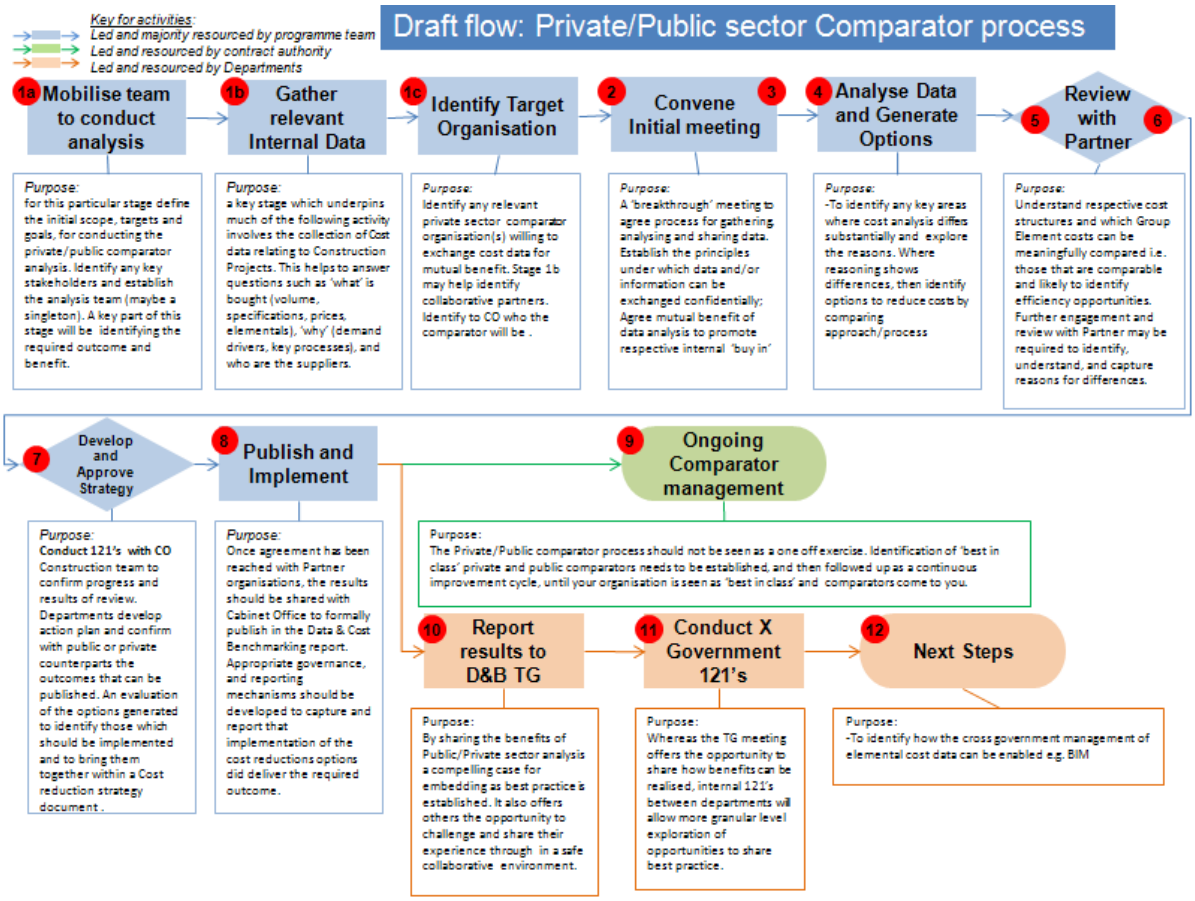
Step 6: Convene joint session(s) to analyse and draw conclusions from key differences and identify efficiency opportunities (BCIS to assist by providing independent validation of comparisons);

Step 7: Departments develop action plan and confirm with public or private counterparts the outcomes that can be published;

Step 8: Departments publish and implement recommendations.

These steps are now supplemented with a process flowchart that includes steps 9 – 12 for ongoing continuous improvement.

Figure 1



The following tables summarise the progress made to date by each Department against these 8 steps and the immediate next steps. Ultimately, the comparisons that will be made are to highlight any useful learning points in terms of the delivery of capital projects. Comparisons made with private organisations that also deliver public services are therefore only for the purpose of identifying learning points in relation to the delivery of new building or infrastructure assets.

Table 25: DCLG / Homes and Communities Agency	
Step	**Progress**
1 - 4	Through working with private sector developers HCA has sought to establish effective cost benchmarks against which to make comparisons. HCA has worked with BCIS to produce a study on the difference between the cost of construction for social housing and that for private housing. The document is in its final draft but the key finding is that there is no data that allows the direct comparison between the two sectors, but also that there is no evidence of material differences between the costs apart from those driven by the difference in what is being built.
Next Steps	Continuing to work with private sector and affordable housing providers to identify benchmarks where these are relevant.

Table 26: DEFRA / Environment Agency	
Step	**Progress**
1 -5	EA has established contact and shared data with the Local Government Association and Highways Agency. EA has worked with local authorities on possible commercial approaches through the Defra "FCERM Capacity Building" workshops and is encouraging local authorities to use its new Water and Environmental Management (WEM) Framework and share project commercial data. There has been significant interest shown by local authorities in using the WEM framework, and in particular - but not limited to - the framework lot for modelling and mapping services. At least two tenders have been issued to date, with one local authority contract already awarded. It is anticipated that those authorities who have begun to use the framework will be continuing to do so for future work. The main focus of the capacity building work is currently knowledge sharing. The capacity building workshops have provided local authorities with a greater awareness of the use of WEM and the corresponding benefits will be monitored. In relation to EA's discussions with the Highways Agency, concerning cost data and programme information sharing: - Both have cost data available from their respective Tier 1 frameworks and are starting to share this data for mutual benefit; - Comparisons have been made addressing how each manages and monitors their respective capital programmes. In doing so, it has been recognised that

Table 26: DEFRA / Environment Agency	
Step	**Progress**
	opportunities may exist to deliver further efficiencies through sharing programmes of work. An initial investigation is therefore underway to determine whether overlaying programmes on a GIS map will identify future schemes which could be combined or jointly delivered, and what potential savings might flow from this. - The EA GIS tool has been shared with the Highways Agency with an expectation of being able to overlay the mutual programmes. These discussions are likely to continue via the IUK Infrastructure Benchmarking Group. Both EA and Highways Agency have established their own respective supply chain frameworks, and are also therefore considering opportunities where it may be possible to use each other's frameworks for greater efficiency. Having been involved in establishing the EA's Site Investigation framework, several parts of the HA have enquired about using it and projects have been programmed and some progressed through to delivery. These include the Manchester Managed Motorways scheme. A contract for the M25 Junction 30 widening project was awarded under the framework in September. There have also been approaches from the rail sector enquiring about the framework principles and potential future use. EA is exploring whether it can make use of the Highways Agency contractor supply chain to deliver any of its large earthworks schemes.
Next Steps	The EA's capital delivery teams have some experience in dealing with the often complex waste transfer issues which arise when combining the earthworks related cut/fill balance across more than one site. The Highways Agency has expressed interest in learning from this experience and EA will therefore share further details at subsequent meetings. EA has set up the engagement exercise to share earthworks programme and cost information.

Table 27: Department of Health (P21 Framework)	
Step	**Progress**
1-4	Meetings have taken place between P21+ and a private healthcare provider to scope a suitable methodology for comparison private and public capital construction costs. P21+ has provided detailed project data to assist the provider

Table 27: Department of Health (P21 Framework)	
Step	**Progress**
	in identifying a comparable project.
Next Steps	Once a comparable project is identified and corresponding data received from the private healthcare provider, a detailed comparison will be undertaken. This next step is currently awaiting identification of a suitable comparable project by the private healthcare provider.

Table 28: DfE / Education Funding Agency	
Step	**Progress**
1-6	EFA has already made use of BCIS sourced data to undertake comparative £/m^2 analyses that generated tables and charts showing mean, highest and lowest cost ranges. These analyses comparing BSF school costs with a range of other building types as follows: 1) Cost comparisons were made with hotels, offices, housing and local administration buildings, drawing on sample sizes ranging from 8 hotels up to 67 offices. 2) A further analysis compared various types of schools ranging from Secondary, 6^{th} form, special, middle and BSF schools. 3) Comparisons made between BSF and respectively super/hypermarkets and factories concluded schools were more expensive but that the comparison was not particularly meaningful.
Next Steps	Next steps to look at costs from more recent programmes such as PSPB and Free Schools

Table 29: DfT / Highways Agency-MP	
Step	**Progress**
1 - 6	HA has established an efficiency review group and process to facilitate the sharing of knowledge and best practice across the portfolio of schemes bringing together HA project managers and the supply chain to drive through savings. This captures a variety of suppliers through more traditional to PFI contracts and enables HA – working with and across the supply chain – to capture, manage, share and report on savings including value adding ideas and whole life cost savings. Data has also been exchanged with Environment Agency. In terms of collaboration with EA: • Tier 1 “main contractor” frameworks have been shared with EA for mutual benefits with potential for them to be used by EA.

Table 29: DfT / Highways Agency-MP	
Step	**Progress**
	• An exercise is underway with EA to overlay HA and EA programme of works on a GSI map and explore potential future schemes where components could be jointly delivered resulting in potential savings. • Comparisons have been discussed on how the HA and EA manages and monitors their capital programmes. This has resulted in potential for future efficiencies through the two agencies collaborating on programme of works. • The HA and EA are continuing to explore other avenues for efficiency savings through regular meetings
Next Steps	The EA's capital delivery teams have some experience in dealing with the often complex waste transfer issues which arise when combining the earthworks related cut/fill balance across more than one site. The Highways Agency has expressed interest in learning from this experience and EA will therefore share further details at subsequent meetings.

Table 30: Ministry of Defence	
Step	**Progress**
1 - 5	Airfield cost data has been exchanged with a private airport operator and further work is required to ensure a like for like comparisons can be made. MoD is also in discussion with DoH/P21 concerning the costs of medical facilities. MOD has compared the cost of their Single Living Accommodation with BCIS data for university student accommodation. MOD to liaise with EFA to consider if there is benefit in EFA including MOD in their link up with one of the large universities comparing practices / costs around student accommodation. A similar approach could be made through HEFCE.
6 - 8	The analysis is not sufficiently mature for publication at this point.
Next Steps	MoD is also exploring the opportunity to exchange housing data with the Homes and Communities Agency, and this will now be extended to work with MOJ and DfE.

Table 31: Ministry of Justice	
Step	**Progress**
1 - 6	MoJ has established arrangements to develop comparisons using PFI Prison tender cost data. EFA has offered to share secure children's home data with MoJ, which has Young Offender establishments. EFA and MoJ have met to compare available data and

Table 31: Ministry of Justice	
Step	**Progress**
	presented the results to the Data and Cost Benchmarking Task Group.
Next Steps	Having developed 'normalized' data for prison accommodation, this has opened the way for MOJ to explore with MoD and HCA the value of comparing data.

Table 32: Home Office	
Step	**Progress**
1 - 2	Home Office has provided elemental data to a local authority and rail sector client. Current projects are proving challenging to match with other organisations. Home Office has explored using external data from consultants and is starting to receive data that may be of use.
Next Steps	Historically there has been a lack of data to establish meaningful in house elemental and project benchmarks. The Home Office has therefore used external consultants to assure value for money is being achieved through competitive competition. Now Home Office is starting to collect data on projects that that have been tendered and is requesting elemental breakdowns form tenderers. This process has been established by external consultants. The prospect of a shared property function is also being discussed with other central government organisations.

PART 4: COST REDUCTION TRAJECTORIES

DEPARTMENT COST REDUCTION TRAJECTORIES

The Cost Reduction Trajectories detailed in Table 33 below represent each department's forecast of the progress that will be made in delivering the Government Construction Strategy target of achieving 15-20% reduction in the cost of construction by the end of this Parliament. Typically, the intermediate points outlined by these trajectories are subject to the profile of individual department's capital programmes.

DfT/HA-MP has revised their cost reduction trajectories for this publication.

Table 33: Department Cost Reduction Trajectories

Department	Trajectory showing Cumulative % Cost Reductions					
	2009/10 (Baseline)	2010/11	2011/12	2012/13	2013/14	2014/15
DoH/P21	0.0%	3.0%	6.0%[36]	9.0%	11.5%	14.1%
DEFRA/EA[37]	-	0.0%	3.8%	7.5%	11.8%	15.0%
DfT/HA	0.0%	0.0%	1.0%	3.0%	13.0%	22.0%
DCLG/HCA	0.0%	1.0%[38]	2.0%	4.0%	7.0%	12.0%
MoD[39]	0.0%	2.5%	5.0%	7.5%	10.0%	12.5%
MoJ[40]	0.0%	3.0%	7.0%	12.0%	15.0%	20.0%
DfE/EFA[41]	0.0%	3.3%	7.0%[42]	17.8%	18.9%	20.0%

[36] This refers to the second half of 2011/12. .

[37] The EA cost reduction trajectory shown has been agreed between EA and DEFRA, is baselined to 2010/11 and applies to EA flood and coastal defence schemes only. Cabinet Office and EA will work together to establish an approach to the cost reduction trajectory based on a 2009/10 baseline to be incorporated into the next update of this document. *"There are efficiencies that can be found in the way EA manage floods and the Environment Agency has committed to deliver real-term efficiency savings of at least 15% in procurement over the spending period."* Caroline Spelman MP (October 2010).

[38] The 1% cost reduction shown for 2010/11 corresponds with the £19m cost reductions achieved for Decent Homes against the 2009/10 benchmark and is inclusive of London spend and calculated from data collected as part of the Social Housing Efficiency Programme.

[39] The MoD cost reduction trajectory has been developed on the basis of Single Living Accommodation procurement through existing contractual arrangements. Further benchmarks will be developed in alignment with the maturing post 'Strategic Defence and Security Review (SDSR)' Demand Plan. These iinclude: Service Families Accommodation (Houses), and Airfield Pavements and will include Offices, Medical Accommodation, Education Facilities, Messing Facilities , Stores , Motor Transport Accommodation and potentially Aircraft Hangers. Maturing cost reduction trajectories will also be considered, reflective of opportunities afforded by MoD's 'Next Generation Estate Contracts' programme, together with the outcome of trials in both Integrated Project Insurance (IPI) and Cost Led Procurement (CLP).

[40] The MoJ cost reduction trajectory has been developed on the basis of typical houseblock projects and will be applied as far as possible to all projects.

[41] The DfE/EFA cost reduction trajectory is based on construction costs for new build areas only (i.e. it does not address refurbishment or maintenance). The cost reductions for 2010/11 and 2011/12 are provisional at this stage and are subject to final data collection and validation, which will be completed during 2012/13.

TECHNICAL ANNEXES

[42] The step change in the trajectory observed between 2010/11 and 2011/12 on the one hand, and 2012/13 on the other, is an outcome of the fact that projects near to financial close prior to the 2010 review of the DfE/EFA programmes offered less scope for the implementation of the DfE / EFA initiatives described in Table 21 and the corresponding significant cost reductions.

ANNEX A: DEPARTMENT COST BENCHMARK DATA: REGIONAL DCLG/HCA DATA

Table 34: Construction Cost Benchmarks for DCLG/HCA: East and South East HCA Operating Area

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	Type 1: Total construction cost	£/m²	1,465	1,156 - 1,678	1,401	1,194 - 1,597	1,323	1,080 - 1,508	1,415	1,176 - 1,571	1,502	1,265 - 1,728
	House/flat for LCHO			1,475	1,079 - 1,602	1,444	1,178 - 1,682	1,425	1,025 - 1,495	1,519	1,226 - 1,703	1,414	1,208 - 1,671
	House/flat for rent: General needs			1,404	1,150 - 1,641	1,353	1,187 - 1,538	1,312	1,080 - 1,505	1,367	1,185 - 1,529	1,448	1,250 - 1,693
	House/flat for rent: Supported Housing			1,894	1,520 - 2,239	1,881	1,500 - 2,172	1,568	**Insuff. data**	1,779	1,399 - 2,051	2,166	1,777 - 2,732
	House/flat for rent	Type 2: £/home and £/person housed	**£/home**	101,993	82,809 - 122,041	100,124	86,036 - 117,208	97,261	77,362 - 117,268	103,041	85,791 - 121,600	109,392	90,324 - 136,207
			£/person housed	28,900	21,956 - 35,833	27,413	22,500 - 32,927	26,766	20,965 - 33,516	28,099	22,100 - 32,986	30,259	24,218 - 36,780
	House/flat for LCHO		**£/home**	99,448	78,137 - 114,454	98,465	84,433 - 116,739	103,599	79,890 - 114,921	108,702	94,156 - 127,750	108,498	88,126 - 137,344
			£/person housed	28,679	21,168 - 32,585	28,125	22,459 - 32,820	27,952	20,720 - 30,703	29,592	23,111 - 34,449	27,877	22,000 - 34,289
	House/flat for rent: General needs		**£/home**	100,822	82,501 - 122,041	99,506	86,042 - 116,933	97,261	77,362 - 116,309	101,874	85,487 - 122,166	108,741	90,000 - 136,457
			£/person housed	26,937	21,560 - 32,641	25,899	22,232 - 30,745	26,404	20,965 - 31,145	26,545	22,000 - 32,152	28,573	23,943 - 35,519
	House/flat for rent: Supported housing		**£/home**	108,558	86,492 - 119,700	104,775	83,129 - 124,707	97,253	**Insuff. data**	110,529	86,520 - 118,769	115,039	94,308 - 134,170
			£/person housed	46,560	37,375 - 59,050	47,099	36,000 - 60,714	35,309	**Insuff. data**	42,983	28,437 - 64,020	58,657	45,701 - 84,234

Table 35: Construction Cost Benchmarks for DCLG/HCA: Midlands HCA Operating Area

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	Type 1: Total construction cost	£/m²	1,371	1,105 - 1,489	1,326	1,086 - 1,501	1,250	988 - 1,395	1,314	1,028 - 1,509
	House/flat for LCHO			1,323	1,137 - 1,450	1,268	1,059 - 1,425	1,126	1,021 - 1,330	1,286	1,027 - 1,413
	House/flat for rent: General needs			1,272	1,096 - 1,433	1,211	1,075 - 1,416	1,169	966 - 1,321	1,176	1,006 - 1,365
	House/flat for rent: Supported Housing			1,895	1,375 - 2,142	1,914	1,428 - 2,157	1,899	**Insuff. data**	1,747	1,509 - 1,972
	House/flat for rent	Type 2: £/home and £/person housed	**£/home**	97,599	79,129 - 113,333	95,583	81,213 - 111,734	91,163	71,545 - 108,597	91,337	79,106 - 103,906
			£/person housed	27,292	20,903 - 30,784	25,453	20,000 - 29,437	24,227	17,955 - 29,057	26,378	18,988 - 30,714
	House/flat for LCHO		**£/home**	103,834	80,409 - 113,880	94,737	77,839 - 108,059	88,786	71,220 - 102,671	96,306	77,807 - 109,861
			£/person housed	25,538	20,784 - 28,401	24,315	18,788 - 26,357	20,827	17,699 - 24,940	24,860	18,690 - 26,490
	House/flat for rent: General needs		**£/home**	95,190	79,474 - 111,125	94,102	80,520 - 111,751	88,208	71,545 - 106,425	88,618	79,230 - 103,433
			£/person housed	24,252	20,429 - 28,380	22,438	19,767 - 26,292	22,154	17,824 - 26,211	21,900	18,854 - 26,556
	House/flat for rent: Supported housing		**£/home**	107,224	75,000 - 127,164	100,693	81,213 - 106,515	109,199	**Insuff. data**	97,624	76,551 - 108,473
			£/person housed	49,162	32,120 - 76,433	44,890	32,895 - 53,182	44,976	**Insuff. data**	46,219	33,923 - 67,349

Table 36: Construction Cost Benchmarks for DCLG/HCA: North East, Yorkshire and The Humber HCA Operating Area

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	Type 1: Total construction cost	£/m²	1,293	1,034 - 1,478	1,253	1,000 - 1,509	1,088	948 - 1,318	1,132	946 - 1,242	1,230	1,052 - 1,510
	House/flat for LCHO			1,177	973 - 1,433	1,072	993 - 1,257	918	699 - 1,304	1,148	946 - 1,349	1,232	1,025 - 1,497
	House/flat for rent: General needs			1,213	1,020 - 1,394	1,168	987 - 1,403	1,055	948 - 1,216	1,073	938 - 1,312	1,183	1,032 - 1,363
	House/flat for rent: Supported Housing			1,833	1,569 - 2,003	1,768	1,402 - 2,137	1,182	**Insuff. data**	1,587	1,442 - 1,813	1,613	1,503 - 1,762
	House/flat for rent	Type 2: £/home and £/person housed	**£/home**	99,646	84,286 - 111,208	98,458	83,477 - 111,561	83,791	70,061 - 99,707	85,694	74,384 - 99,292	91,384	79,462 - 105,051
			£/person housed	24,777	19,014 - 30,765	24,300	19,101 - 30,203	21,682	17,742 - 25,362	22,025	17,792 - 28,439	23,758	19,327 - 31,034
	House/flat for LCHO		**£/home**	96,451	77,417 - 112,381	91,437	84,798 - 106,533	73,349	43,859 - 101,351	89,148	76,506 - 99,937	90,467	79,494 - 101,740
			£/person housed	21,955	18,085 - 26,719	20,403	18,844 - 23,678	18,524	13,971 - 27,118	22,836	17,217 - 29,057	24,177	17,665 - 31,351
	House/flat for rent: General needs		**£/home**	98,690	85,239 - 110,309	96,749	82,511 - 110,135	87,445	70,061 - 100,076	84,539	73,815 - 99,970	90,724	78,839 - 104,901
			£/person housed	22,790	18,268 - 27,622	22,371	18,900 - 28,052	20,300	17,742 - 23,354	20,481	17,674 - 25,343	22,285	18,709 - 27,293
	House/flat for rent: Supported housing		**£/home**	104,188	82,250 - 112,625	105,943	85,247 - 115,000	75,661	**Insuff. data**	92,272	79,536 - 97,156	95,453	84,110 - 107,042
			£/person housed	40,769	33,019 - 54,168	37,100	28,750 - 65,000	26,280	**Insuff. data**	36,296	31,245 - 41,692	38,827	33,967 - 48,446

Table 37: Construction Cost Benchmarks for DCLG/HCA: North West HCA Operating Area

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	Type 1: Total construction cost	£/m²	1,351	1,112 - 1,590	1,309	1,077 - 1,453	1,097	989 - 1,312	1,182	1,043 - 1,368	1,257	1,062 - 1,494
	House/flat for LCHO			1,370	1,054 - 1,488	1,202	1,024 - 1,399	1,150	1,013 - 1,380	1,266	1,036 - 1,451	1,170	1,004 - 1,468
	House/flat for rent: General needs			1,292	1,105 - 1,506	1,229	1,069 - 1,389	1,085	985 - 1,301	1,124	1,038 - 1,315	1,195	1,050 - 1,418
	House/flat for rent: Supported Housing			1,678	1,269 - 2,169	1,845	1,369 - 1,919	1,345	**Insuff. data**	1,580	1,236 - 1,668	1,785	1,481 - 2,786
	House/flat for rent	Type 2: £/home and £/person housed	**£/home**	97,189	86,265 - 117,500	101,060	87,541 - 114,511	85,277	75,509 - 103,058	90,342	81,334 - 102,405	89,678	78,899 - 106,365
			£/person housed	27,105	20,229 - 34,045	25,298	19,549 - 29,676	20,650	17,800 - 25,792	22,640	18,324 - 27,685	24,151	19,322 - 30,524
	House/flat for LCHO		**£/home**	103,319	81,846 - 121,300	95,774	83,926 - 107,584	96,351	89,130 - 103,523	95,465	83,045 - 104,294	87,662	79,534 - 106,653
			£/person housed	26,966	18,939 - 30,325	21,998	18,613 - 25,756	20,833	17,826 - 24,233	25,346	17,583 - 33,855	21,529	17,965 - 29,367
	House/flat for rent: General needs		**£/home**	96,306	86,903 - 118,259	99,364	88,725 - 114,230	85,863	76,037 - 101,913	89,014	81,334 - 101,225	88,700	78,899 - 105,175
			£/person housed	24,830	19,503 - 29,253	23,157	19,350 - 26,626	20,239	17,758 - 25,000	20,696	18,298 - 25,940	22,671	19,209 - 27,811
	House/flat for rent: Supported housing		**£/home**	101,153	85,819 - 114,032	109,402	82,506 - 115,199	76,368	**Insuff. data**	97,433	80,343 - 112,091	95,699	87,888 - 113,605
			£/person housed	44,519	31,439 - 96,623	43,095	28,781 - 54,723	31,638	**Insuff. data**	41,798	28,491 - 46,458	38,481	32,889 - 56,170

Table 38: Construction Cost Benchmarks for DCLG/HCA: South and South West HCA Operating Area

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14	
				Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile	Single Point Average	Range 20th – 80th Percentile
New Build	House/flat for rent	Type 1: Total construction cost	£/m²	1,454	1,166 - 1,616	1,427	1,167 - 1,609	1,340	1,102 - 1,502	1,321	1,029 - 1,494	1,411	1,124 - 1,633
	House/flat for LCHO			1,368	1,132 - 1,541	1,370	1,160 - 1,543	1,274	974 - 1,491	1,385	1,034 - 1,531	1,386	1,159 - 1,618
	House/flat for rent: General needs			1,364	1,158 - 1,564	1,372	1,162 - 1,563	1,268	1,060 - 1,438	1,303	1,023 - 1,487	1,341	1,106 - 1,594
	House/flat for rent: Supported Housing			2,289	1,687 - 4,242	1,891	1,508 - 2,091	1,720	**Insuff. data**	1,768	**Insuff. data**	2,059	1,720 - 2,259
	House/flat for rent	Type 2: £/home and £/person housed	**£/home**	102,663	83,571 - 121,037	107,054	90,410 - 126,667	92,050	75,037 - 110,643	95,555	75,936 - 114,200	104,786	86,694 - 122,108
			£/person housed	28,405	22,309 - 33,509	27,759	21,977 - 31,973	27,216	20,947 - 31,756	25,381	19,210 - 30,818	27,795	20,854 - 33,512
	House/flat for LCHO		**£/home**	95,758	78,617 - 112,625	101,575	86,590 - 118,696	90,827	70,492 - 106,987	98,351	76,495 - 111,281	107,535	87,986 - 126,054
			£/person housed	26,649	20,967 - 30,841	26,193	21,648 - 31,186	24,816	19,358 - 28,806	26,184	18,811 - 30,730	26,592	21,558 - 31,759
	House/flat for rent: General needs		**£/home**	101,652	83,627 - 120,311	106,077	90,177 - 126,900	91,311	74,224 - 111,034	95,183	75,797 - 114,200	102,840	86,577 - 121,881
			£/person housed	26,260	22,208 - 31,276	26,188	21,822 - 30,954	24,681	20,097 - 29,160	24,806	19,166 - 29,740	25,647	20,763 - 32,012
	House/flat for rent: Supported housing		**£/home**	108,689	81,486 - 130,834	113,429	97,573 - 115,867	95,043	**Insuff. data**	102,671	**Insuff. data**	118,112	99,955 - 122,399
			£/person housed	52,182	39,298 - 86,625	43,793	32,092 - 51,789	45,337	**Insuff. data**	43,015	**Insuff. data**	55,533	43,115 - 73,953

ANNEX B: COST COMPONENTS INCLUDED WITHIN DEPARTMENT COST BENCHMARKS

Table 39: Cost Components included within Department Cost Benchmarks (for DoH/P21, DCLG/HCA, MoD, MoJ, DfE/EFA and National Schools Delivery Cost Benchmarking)

NRM Ref	Cost Components	Typically included in DoH/P21 benchmarks (Reference Table 5)	DCLG/HCA New Build (Reference Table 8 and Annex A)	DCLG/HCA Refurbishment (Reference Table 8 and Annex A)	MOD (Reference Table 9 and Annex A)	Typically included in MoJ benchmarks (Reference Table 12)	Typically included in DfE / EFA benchmarks (Reference Table 13)	National Schools Delivery Cost Benchmarking (Reference Table 21 to 23)
0	**Facilitating works**							
0.01	Toxic/hazardous material removal	N	Y	N	N	N	N	Y
0.02	Major demolition works	N	Y	N	N	Y	Y	Y
0.03	Specialist ground works	N	Y	N/A	N	N	N	Y
0.04	Temporary diversion works	N	Y	N/A	N	N	N	Y
0.05	Extraordinary site investigation works	N	Y	N/A	N	N	N	N
01	**Substructure**							
01.01	Foundations	Y	Y	N/A	Y	Y	Y	Y
01.02	Basement Excavation	Y	Y	N/A	Y	N	N	Y
01.03	Basement Retaining Walls	Y	Y	N/A	Y	N	N	Y
01.04	Ground Floor Construction	Y	Y	N/A	Y	Y	Y	Y
02	**Superstructure**					Y		
02.01	Frame	Y	Y	N/A		Y	Y	Y
02.02	Upper Floors	Y	Y	N/A	Y	Y	Y	Y
02.03	Roof	Y	Y	Y	Y	Y	Y	Y
02.04	Stairs and Ramps	Y	Y	N	Y	Y	Y	Y
02.05	External Walls	Y	Y	Y	Y	Y	Y	Y
02.06	Windows and External Doors	Y	Y	Y	Y	Y	Y	Y
02.07	Internal Walls and Partitions	Y	Y	N	Y	Y	Y	Y
02.08	Internal Doors	Y	Y	N	Y	Y	Y	Y
03	**Internal finishes**							
03.01	Wall finishes	Y	Y	Y	Y	Y	Y	Y
03.02	Floor finishes	Y	Y	Y	Y	Y	Y	Y
03.03	Ceiling finishes	Y	Y	Y	Y	Y	Y	Y
04	**Fittings, furnishing and equipment**							
04.01	General fittings, furnishings and equipment	Y	Y	N/A	Y	Y	Y	Y
04.02	Special fittings, furnishings and equipment	Y	Y	N/A	Y	N	N	Y
04.03	Internal planting	Y	Y	N/A	Y	N	N	Y
04.04	Bird and vermin control	Y	Y	N/A	Y	N	N	Y
05	**Services**							
05.01	Sanitary appliances	Y	Y	Y	Y	Y	Y	Y
05.02	Services equipment	Y	Y	Y	Y	Y	Y	Y
05.03	Disposal installations	Y	Y	N/A	Y	Y	Y	Y
05.04	Water installations	Y	Y	N/A	Y	N	Y	Y
05.05	Heat source	Y	Y	Y	Y	N	Y	Y
05.06	Space heating and air conditioning	Y	Y	Y	Y	N	Y	Y
05.07	Ventilation systems	Y	Y	N	Y	Y	Y	Y
05.08	Electrical installations	Y	Y	Y	Y	Y	Y	Y
05.09	Gas and other fuel installations	Y	Y	Y	Y	N	Y	Y

Table 39: Cost Components included within Department Cost Benchmarks (for DoH/P21, DCLG/HCA, MoD, MoJ, DfE/EFA and National Schools Delivery Cost Benchmarking)

NRM Ref	Cost Components	Typically included in DoH/P21 benchmarks (Reference Table 5)	DCLG/HCA New Build (Reference Table 8 and Annex A)	DCLG/HCA Refurbishment (Reference Table 8 and Annex A)	MOD (Reference Table 9 and Annex A)	Typically included in MoJ benchmarks (Reference Table 12)	Typically included in DfE / EFA benchmarks (Reference Table 13)	National Schools Delivery Cost Benchmarking (Reference Table 21 to 23)
05.10	Lift and conveyor installations	Y	Y	N	Y	N	Y	Y
05.11	Fire and lightning protection	Y	Y	Y	Y	N	Y	Y
05.12	Communication, security and control systems	Y	Y	Y	Y	N	Y	Y
05.13	Specialist installations	Y	Y	N	Y	N	Y	Y
05.14	Builder's work in connection with services	Y	Y	N	Y	N	Y	Y
05.15	Testing and commissioning of services	Y	Y	N	Y	N	Y	Y
06	**Complete buildings and building units**							
06.01	Prefabricated buildings	Y	Y	N/A	Y	N	N	N
07	**Work to existing buildings**							
07.01	Minor demolition works and alteration works	Y	Y	N	Y	Y	N	Y
07.02	Repairs to existing services	Y	Y	Y	Y	N	N	Y
07.03	Damp-proof courses /fungus and beetle eradication	Y	Y	N	Y	N	N	Y
07.04	Façade retention	Y	Y	N	Y	N	N	N
07.05	Cleaning existing surfaces	Y	Y	N	Y	N	N	N
07.06	Renovation works	Y	Y	Y	Y	N	N	Y
08	**External works**							
08.01	Site preparation works	N	Y	Y	N	N	Y	Y
08.02	Roads, paths and pavings	N	Y	N	N	Y	Y	Y
08.03	Planting	N	Y	N	N	Y	Y	Y
08.04	Fencing, railings and walls	N	Y	N	N	Y	Y	Y
08.05	Site/street furniture and equipment	N	Y	N	N	N	Y	Y
08.06	External drainage	N	Y	N	N	Y	Y	Y
08.07	External services	N	Y	N	N	N	Y	Y
08.08	Minor building works and ancillary buildings	N	Y	N	N	N	N	Y
09	**Main contractor's preliminaries**							
09.01	Employer's requirements	Y	Y	Y	Y	Y	N	Y
09.02	Main contractor's cost items	Y	Y	Y	Y	Y	Y	Y
10	**Main contractor's overheads and profit**							Y
10.01	Main contractor's overheads	Y	Y	Y	Y	Y	Y	Y
10.02	Main contractor's profit	Y	Y	Y	Y	Y	Y	Y
11	**Project/design team fees**							
11.01	Consultants' fees	N	N	N/A	N	Y	Y	Y
11.02	Main contractor's pre-construction fees	Y	N	N/A	N	Y	N	Y
11.03	Main contractor's design fees*	Y	N	N/A	N	Y	Y	Y

Table 39: Cost Components included within Department Cost Benchmarks (for DoH/P21, DCLG/HCA, MoD, MoJ, DfE/EFA and National Schools Delivery Cost Benchmarking)

NRM Ref	Cost Components	Typically included in DoH/P21 benchmarks (Reference Table 5)	DCLG/HCA New Build (Reference Table 8 and Annex A)	DCLG/HCA Refurbishment (Reference Table 8 and Annex A)	MOD (Reference Table 9 and Annex A)	Typically included in MoJ benchmarks (Reference Table 12)	Typically included in DfE / EFA benchmarks (Reference Table 13)	National Schools Delivery Cost Benchmarking (Reference Table 21 to 23)
12	**Other development/project costs**							
12.01	Other development /project costs	Y	Y	N	Y	Y	N	Y
13	**Risks**							
13.01	Design development risks	Y	Y	N/A	Y	Y	Y	Y
13.02	Construction risks	Y	Y	N/A	Y	Y	Y	Y
13.03	Employer change risks	N	Y	N/A	N	Y	N	N
13.04	Employer other risks	N	Y	N/A	N	Y	N	N
14	**Inflation**							
14.01	Tender inflation	Y	Y	N	Y	N	N	N
14.02	Construction inflation	Y	Y	Y	Y	N	Y	Y

* **For P21:** these are P21 supply chain design fees; **for MoD:** Maximum Price Target Costs include detailed design from RIBA Stage D onwards.

Table 40: Cost Components included within Department Cost Benchmarks for EA	
Cost Components	**Typically included in EA Type 1 benchmarks** (Reference Table 6)
Contractors direct construction costs	**Y**
Overheads & profit	
Preliminaries	**Y**
Method related charges	**Y**
temporary works	**Y**
Site establishment	**Y**
Staff costs	**Y**
Insurances	**Y**
Painshare/ gainshare	**Y**
Profit	**Y**
The **elemental costs (for either embankments or retaining walls)** also include other associated construction works, which are not separately identified as measured elements, these might include:	
Work undertaken as part of the main construction work such as fencing, drainage, culvert inlet works/ screens	**Y**
Temporary works such as access tracks, pumping, cofferdams, river diversions where appropriate	**Y**
Variations/ compensation events/ delay costs where these are not specific to any particular element	**Y**
VAT	**N**
External consultants	**N**
Internal client costs	**N**
Land	**N**
Compensation payments	**N**

.

Table 41: Cost Components included within Department Cost Benchmarks for HA		
HA ref.		Typically included in HA Benchmarks / Project Costs Construction Phase.
		Construction Cost Components
Bill	**Series**	**Description**
Project Overheads	0100	Cost of Offices
	0100	Construction Management
	0100	Insurances
	0100	Ancillary Overhead Costs
	0100	General Labour
	0100	Design Management (Contractor, the Contractor's Designer & the PCF Products in Phase)
	2700	Accommodation Works, Works for Statutory Undertakers, Provisional Sums and Prime Cost Items
Method Related Costs	0100	General Plant - either road works and structures where it is unable to be allocated or general plant within / around the site compound and the works generally General purpose plant not included in Unit Costs
	0100	Temporary Works - Temporary works associated with structures must be allocated to the relevant structure Items below include all attendant labour, supervision and management etc.
	0100	Traffic Management - traffic management associated with structures must be allocated to the relevant structure
General / Enabling Works	0200	Site Clearance
	0300	Fencing
	3000	Landscape & Ecology
Road works	0300	Fencing
	0400	Road Restraint Systems
	0500	Drainage
	0600	Earthworks
	0700	Pavements
	1100	Kerbs, Footways And Paved Areas
	1200	Traffic Signs And Road Markings
	1300	Road Lighting Columns, Brackets & CCTV Masts
	1400	Electrical Work For Road Lighting And Traffic Signs
Road works	0500	Drainage
	0600	Earthworks
	1600	Piling and Embedded Retaining Walls

- Retaining Walls	1700	Structural Concrete
	1800	Structural Steelwork
	1900	Protection of Steelwork Against Corrosion
	2000	Waterproofing for concrete structures
	2300	Bridge Expansion Joints and Sealing of Gaps
	2400	Brickwork, Blockwork & Stonework
Technology - 1500 Motorway Communications	1500	Motorways Communications and Technology
Technology - MS3 / MS4 Civils	0500	Drainage
	0600	Earthworks
	1600	Piling and Embedded Retaining Walls
	1700	Structural Concrete
	1800	Structural Steelwork
	1900	Protection of Steelwork Against Corrosion
	2000	Waterproofing for concrete structures
	2300	Bridge Expansion Joints and Sealing of Gaps
	2400	Brickwork, Blockwork & Stonework
Structures	0300	Fencing
	0400	Road Restraint Systems
	0500	Drainage
	0600	Earthworks
	0700	Pavements
	1100	Kerbs, Footways And Paved Areas
	1200	Traffic Signs And Road Markings
	1300	Road Lighting Columns, Brackets & CCTV Masts
	1400	Electrical Work For Road Lighting And Traffic Signs
Structures - Retaining Walls	0500	Drainage
	0600	Earthworks
	1600	Piling and Embedded Retaining Walls
	1700	Structural Concrete
	1800	Structural Steelwork
	1900	Protection of Steelwork Against Corrosion
	2000	Waterproofing for concrete structures
	2100	Bridge Bearings
	2300	Bridge Expansion Joints and Sealing of Gaps
	2400	Brickwork, Blockwork & Stonework
	2500	Special Commissioned Structures

Table 42: Cost Components included within Airfield Pavement Benchmarks for MoD		
	Cost Components in accordance with Standard Form of Civil Engineering Analysis	**Typically included in Airfield Pavements Type 1 benchmarks** (Reference Table 11)
1	**Substructure**	
1A	Subgrade	**Y**
2	**Pavement**	
2A	Preparation	**Y**
2B	Pavement Structure	**Y**
2C	Pavement Surface	**Y**
2D	Edge Treatment	**Y**
3	**Pavement Completion**	
3A	Drainage	**Y**
3B	Electrical Power	**Y**
3C	Lighting	**Y**
3D	Heating	**Y**
3E	Water	**Y**
3F	Communications	**Y**
3G	Protection and Security	**Y**
3H	Special Installations	**Y**
3I	Ancillary structures etc	**Y**
3J	BWIC	**Y**
4	**External works**	
4A	Site preparation	**Y**
4B	Surface treatments	**Y**
4C	Landscaping and planting	**Y**
4D	Enclosures and divisions	**Y**
4E	Fixtures	**Y**
4F	Drainage	**Y**
4G	Services	**Y**
4H	Buildings and Structures	**Y**
5	**Facilitating works**	
5A	Site preparation	**Y**
5B	Bridges	**Y**
5C	Tunnels	**Y**
6	**Preliminaries**	**Y**
7	**Location related temporary works**	**Y**
8	**Contingencies and Risk**	**Y**
9	**Design Fees**	**Y**
10	**Other Client Costs**	**Y**

ANNEX C: INFLATION ADJUSTMENTS

This section addresses the adjustments made to take account of construction inflation. It reproduces the explanation originally in the Cost Reduction Validation Method, published February 2012. It also outlines the approaches taken by each department in determining the annual cost reductions and cost benchmarks reported in each annual period.

Explanation addressing inflation adjustment given in the Cost Reduction Validation Method (February 2012)

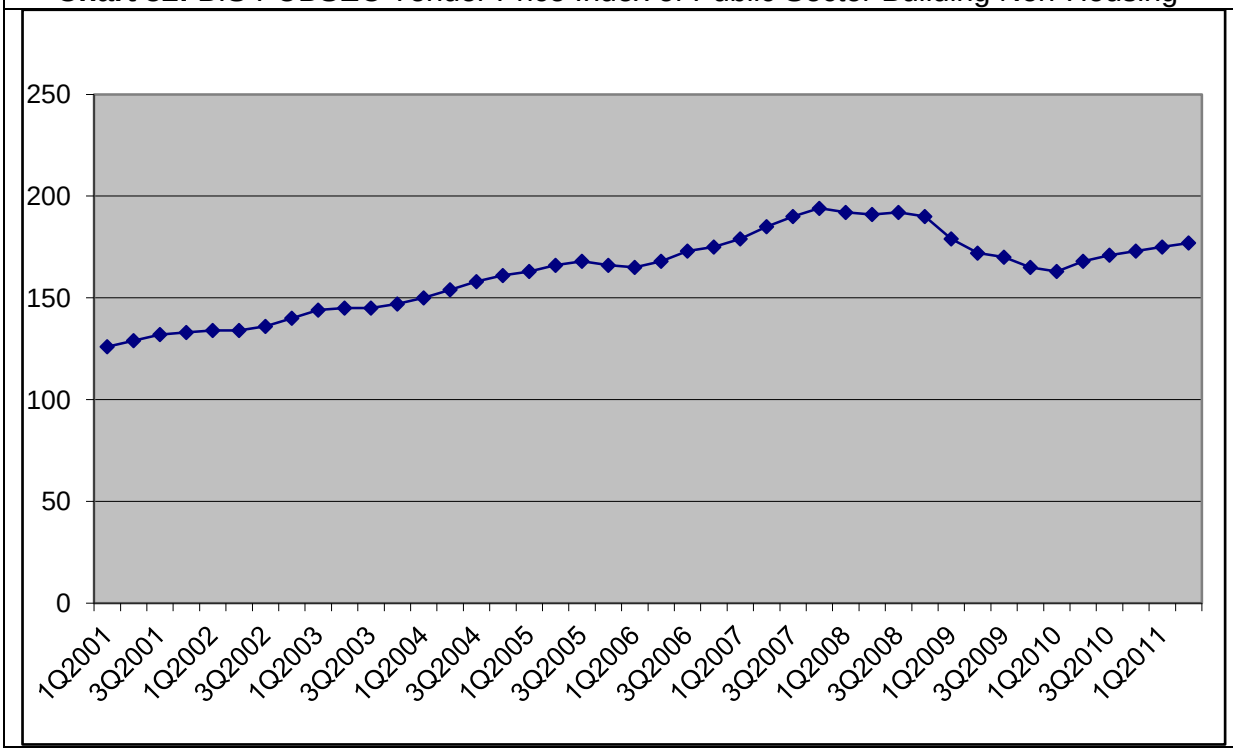
Section 3: Background to the method

The adoption of benchmarks (unit rates such as £/m^2) and percentage year on year reductions reflects the construction industry's traditional way of showing cost and price adjustments. The changing basket of project types delivered and fluctuations in overall construction expenditure mean that tracking year on year changes in overall spend are not instructive.

Similarly, over the last decade or more, the UK Construction Market has been characterised by steadily rising prices as evidenced by the industry's price indices (refer to Chart 52 below). Throughout this period industry margins tended to remain keen, indicating rising underlying costs, while in recent years - as investment has fallen as a consequence of the Financial Crisis - prices have fallen accordingly, though perhaps "unsustainably", since prices started to rise again fairly quickly.

The key challenge in measuring progress towards the target of 15-20% is therefore to identify the components within these ongoing price adjustments that represent sustainable cost reductions rather than rising commodity prices and/or temporary and unsustainable price adjustments by businesses "buying work" to maintain volume.

Chart 52: BIS PUBSEC Tender Price Index of Public Sector Building Non-Housing



Other factors that have been taken into account in determining an appropriate quantifiable cost reduction validation method include the:

- *fact that spending review settlements typically resulted in cash being taken from Departments, so that the inability of any particular Department to achieve its required cost reductions will lead to fewer construction projects being delivered than planned, with possible operational consequences;*
- *variety of project types delivered and changing proportions in any given year – for example, a shift away from new build towards refurbishment – that can affect benchmarks, while signifying little about efficiency;*
- *lengthy timescales involved in construction projects, which mean that efficiency initiatives implemented from May 2010 may not generate outturn benchmarks by April 2015;*
- *dependence of the scale of cost reduction possible on the volume of work delivered;*
- *range of cost reduction measures being implemented by Departments (refer to Section 10 below) and the different types of cost reductions being generated: cashable, value enhancement, cost avoidance;*

- *existing recording of cost reductions between May 2010 and publication of this method;*
- *for some departments, such as MoJ - where the majority of construction spend is currently focused on relatively small scale refurbishment and repairs, with low levels of repetition - there will inevitably be wider ranges in some of the resulting £/m^2 benchmarks reducing their usefulness.*

In general, therefore, it has been important to reflect the factors set out above and standard industry practice in the calculation of cost reductions.

Section 5: Counterfactual

This cost reduction validation method will take account of the counterfactual - i.e. the circumstances that would have prevailed had the Government's broader efficiency programme and sector specific Government Construction Board joint programme not have been introduced, or construction costs not have been affected by external factors such as increased regulation or policy changes - in the following ways.

Inflation

As highlighted in the section above, there has been a tendency historically for construction prices to move up over the long term with relatively brief periods of price stagnation or deflation in between. The 20% reduction is therefore to be measured for each Department as the percentage difference between the 2009/10 baseline benchmarks and the benchmarks achieved in the current period adjusted for inflation to allow sensible comparison. The objective is therefore to demonstrate the Government's ability to "beat the market" by changing an upwards cost curve to a downwards trajectory.

However, should there be an extended period of construction price stagnation or deflation, then the method may need to be modified in a credible way that takes account of the particular circumstances that pertain, since price stagnation or deflation could be because of one or more of the following reasons:

- *The Government Construction Board joint programme has immediate effects that go beyond public and regulated projects, shifting the construction industry onto a "sustainable" downward price trajectory earlier than expected i.e. part of the 15-20% efficiency improvement will have already been achieved.*

- *Keen pricing to maintain volume ("buying work") leads to efficient practices rather than the usual restoration of construction inflation, as "unsustainable" pricing is translated into efficiencies that allow "sustainable" pricing at a lower level i.e. again part of the 15-20% efficiency improvement will have already been achieved.*

- *Global commodity prices suppress the restoration of construction inflation i.e. the state of the global economy presents an "unsustainable" windfall that may have generated little of the 15-20% efficiency improvement targeted.*

Sector Specific Inflation

Broader measures of construction inflation – such as that shown in Chart 52 – may not be representative of the inflation experienced within specific sectors, for example, in the highways sector where the cost of bitumen represents a significant proportion of the cost and relates to global oil price movements.

Controlling for External Factors

External factors such as policy and regulatory changes can adversely impact construction costs beyond the ability of the Departmental clients to mitigate increases. Therefore in parallel with the tracking of the above measures and inflation, step changes in construction costs due to external factors will also be recorded by each Department and will be accepted by Cabinet Office after review of the evidence submitted to support the inclusion of percentage uplifts to what will be known as the "control curve".

Inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

The following section outlines the inflation adjustments made by each department in assessing annual cost reductions (typically by applying an inflator to the baseline data) and in generating the cost benchmark related charts and tables (typically by applying a deflator to each year's data following the baseline year).

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td>DoH / P21</td><td>Cost reductions have been reported on the basis of 2009/10 constant prices as per the method used for cost benchmarks described in the next column.

From 2013/14 onwards this method will be modified to bring it in line with the methods applied by other departments in calculating cost reductions achieved (see below).</td><td>2013/14 projects have therefore been adjusted to the same basis as the 2009/10 baseline using the BIS PUBSEC Tender Price Index of Public Sector Non Housing (PUBSEC 173). The adjustment varies from project to project and is based on the PUBSEC index prevailing when the guaranteed maximum price is agreed. For 2013/14, these adjustments range from 0.92 to 0.96 i.e. cost benchmarks in 2013/14 prices have been multiplied by these factors to translate them into equivalent 2009/10 prices.
Benchmarks reported for 2010/11, 2011/12 and 2012/13 have therefore been deflated as follows:

<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>173</td><td>174 to 177</td><td>174 to 178</td><td>176 to 181</td><td>181 to 189</td></tr>
<tr><td>Deflator</td><td>1</td><td>0.97 to 0.98</td><td>0.97 to 0.99</td><td>0.96 to 0.98</td><td>0.92 to 0.96</td></tr>
</table>
</td></tr>
<tr><td>DEFRA / EA</td><td>The efficiency savings are reported on a project basis and are calculated using cash released back into the programme within the current financial year. Cost reductions have been reported on the basis of 2012/13 prices.</td><td>Construction cost benchmarks have been adjusted to the same basis as the 2009/10 baseline using the BIS Output Price Index for New Construction (2010): Public Non-Housing index

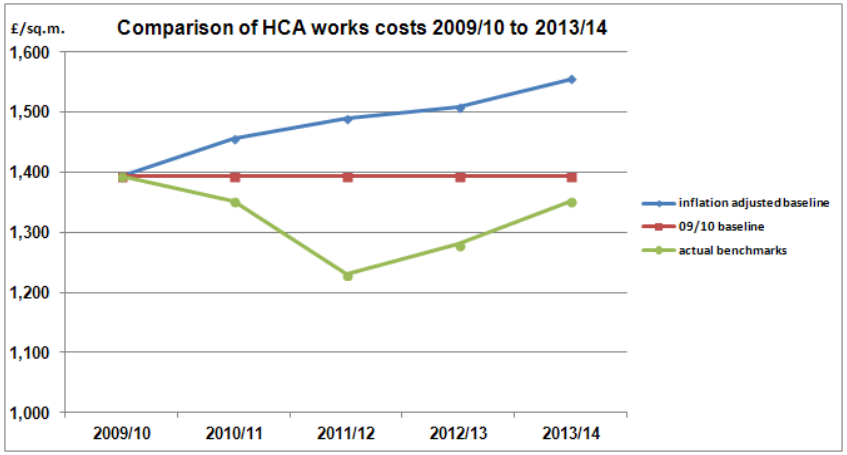
Benchmarks reported for 2010/11, 2011/12 and 2012/13 have therefore been deflated as follows:</td></tr>
</table>

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>120.8</td><td>110.1</td><td>106.5</td><td>109.8</td><td>115.0</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>0.91</td><td>0.88</td><td>0.91</td><td>0.95</td></tr>
</table>
</td></tr>
<tr><td>DfT / HA</td><td>The aggregated efficiency savings are calculated on a project by project basis against their respective baseline estimates, these included an estimate/forecast for inflation. Part of the actual savings reported in each year reflect performance against those inflation assumptions which is a product of market conditions and the commercial negotiating process which drives lower unit rates across the work breakdown structure.
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th></tr>
<tr><td>Index</td><td>152</td><td>151</td><td>157</td><td>159</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>1.01</td><td>0.97</td><td>0.96</td></tr>
</table>
</td><td>Cost benchmarks have been reported on the basis of the 2009/10 baseline.

2010/11, 2011/12, 2012/13 and 2013/14 projects have therefore been adjusted to a baseline of 2009/10. This has been carried out using BIS (RICS – Building Cost Information Service) ROADCON index.
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>152</td><td>151</td><td>157</td><td>159</td><td>162</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>1.01</td><td>0.97</td><td>0.96</td><td>0.94</td></tr>
</table>
No adjustment has been made for location factors.</td></tr>
<tr><td>DCLG / HCA</td><td>Cost reductions have been reported on the basis of 2013/14 prices. The 2009/10 baseline has therefore been adjusted to 2013/14 prices using the Building Cost Information Service</td><td>Cost benchmarks have been reported on the basis of constant 2009/10 prices. Benchmarks reported for the years following have therefore been deflated using the Building Cost Information</td></tr>
</table>

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td></td><td>(BCIS) General Construction Cost Index as follows:
:
<table><tr><th></th><th>2009/10</th><th>2012/13</th><th>2013/14</th></tr><tr><td>Inflator</td><td>1.00</td><td>1.08</td><td>1.12</td></tr><tr><td>Baseline Benchmark £/m^2</td><td>1393</td><td>1508</td><td>1555</td></tr></table> 
</td><td>Service (BCIS) General Construction Cost Index as follows:<table><tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr><tr><td>Index</td><td>290</td><td>303</td><td>310</td><td>314</td><td>324</td></tr><tr><td>Deflator</td><td>1.00</td><td>0.95</td><td>0.94</td><td>0.92</td><td>0.90</td></tr></table></td></tr>
<tr><td>MoD</td><td>Cost reductions have been reported on the basis of 2012/13 prices using the BIS PUBSEC Tender Price Index of Public Sector Non Housing (PUBSEC 173).</td><td>Cost benchmarks have been reported on the basis of constant 2009/10 prices.

2013/14 projects have therefore been adjusted to the same basis</td></tr>
</table>

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td></td><td>
The baseline 2009/10 index used was the mid-point of 2009/10 i.e. the mid-point of Q3 2009 index of 170 and 4Q2009 index of 165 giving an average index of 167.5. For 2013/14 the Q4 2013 index of 184 was used.

The 2009/10 baseline has therefore been adjusted as follows:

<table>
<tr><th></th><th>2009/10</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>167.5</td><td>173</td><td>184</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.03</td><td>1.10</td></tr>
</table>

Locations have been normalised to a UK mean location (base = 100).
Due to the BIS PUBSEC index being a Non-Housing index SFA cost reductions have been reported on the basis of prices using the All-in Tender Price Index (TPI 101), published by the Building Cost Information Service (BCIS)

The baseline 2009/10 index used was the mid-point of 2009/10 i.e. the mid-point of Q3 2009 index of 216 and 4Q2009 index of 212 giving an average index of 214. For 2013/14 the Q4 2013 index of 239 was used.
</td><td>
as the 2009/10 baseline using the BIS PUBSEC Tender Price Index of Public Sector Non Housing (PUBSEC 173). The baseline 2009/10 index used was the mid-point of 2009/10 i.e. the mid-point of Q3 2009 index of 170 and Q4 2009 index of 165 giving an average index of 167.5. For 2013/14 the Q4 2013 index of 184 was used.

Benchmarks reported for 2010/11, 2011/12 and 2012/13 have therefore been deflated as follows:

<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>167.5</td><td>171.5</td><td>176.5</td><td>173</td><td>185</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>0.98</td><td>0.95</td><td>0.97</td><td>0.91</td></tr>
</table>

Locations have been normalised to a UK mean location (base = 100).

For SFA projects 2013/14 projects have been adjusted to the same basis as the 2009/10 baseline using the BCIS All-in Tender Price Index (TPI 101). The baseline 2009/10 index used was the mid-point of 2009/10 i.e. the mid-point of Q3 2009 index of 216 and Q4 2009 index of 212 giving an average index of 214. For 2013/14 the Q4 2013 index of 239 was used.
</td></tr>
</table>

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td></td><td>
<table>
<tr><th></th><th>2009/10</th><th>2013/14</th></tr>
<tr><td>Index</td><td>214</td><td>239</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.12</td></tr>
</table>
</td><td>Benchmarks reported for 2010/11, 2011/12 and 2012/13 have therefore been deflated as follows:
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>214</td><td>221.5</td><td>222.5</td><td>235.5</td><td>239</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>0.97</td><td>0.96</td><td>0.91</td><td>0.90</td></tr>
</table>
Locations have been normalised to a UK mean location (base = 100).</td></tr>
<tr><td>MoJ</td><td>Cost reductions have been reported on the basis of 2012/13 prices using the All-in Tender Price Index (TPI), published by the Building Cost Information Service (BCIS) i.e. the 2009/10 baseline has been adjusted as follows:
<table>
<tr><th></th><th>2009/10</th><th>2012/13</th></tr>
<tr><td>Index</td><td>216</td><td>228</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.06</td></tr>
</table>
Location factors are not used on MOJ projects.</td><td>Cost benchmarks have been reported on the basis of constant 2009/10 prices using the All-in Tender Price Index (TPI), published by the Building Cost Information Service (BCIS) i.e. the 2009/10 baseline has been adjusted as follows:

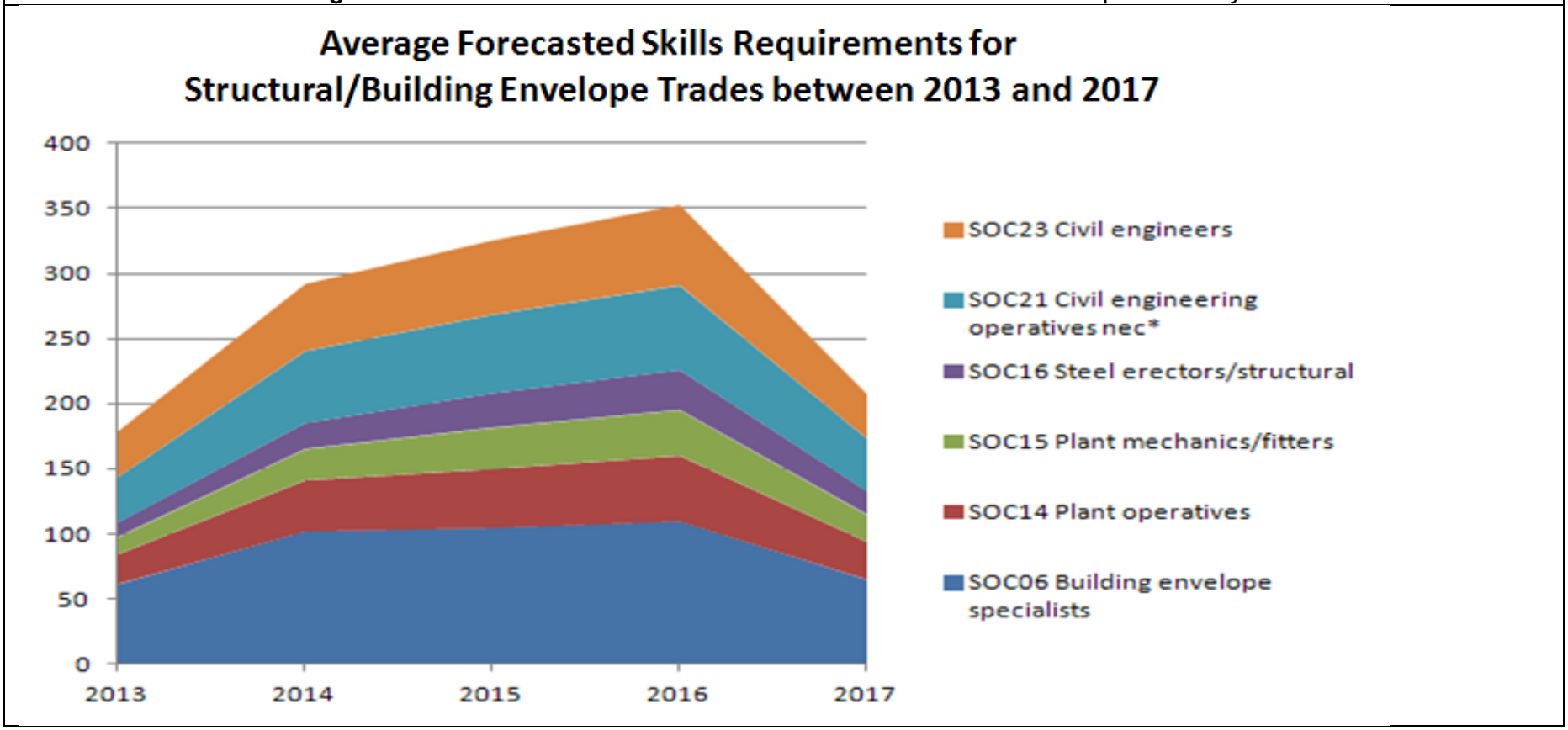
Benchmarks reported for 2010/11, 2011/12, 2012/13 and 2013/14 have therefore been deflated as follows:
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>216</td><td>220</td><td>226</td><td>228</td><td>235</td></tr>
<tr><td>Deflator</td><td>1.00</td><td>0.98</td><td>0.96</td><td>0.95</td><td>0.92</td></tr>
</table>
Location factors are not used on MOJ projects.</td></tr>
</table>

Table 43: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Department / Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td>DfE / EFA</td><td>Cost reductions have been normalised on the basis of current year prices using the BIS PUBSEC Tender Price Index of Public Sector Non Housing i.e. the 2009/10 baseline has been inflated as required.</td><td>Cost benchmarks have been normalised on the basis of constant 2009/10 prices using the BIS PUBSEC Tender Price Index of Public Sector Non Housing.</td></tr>
<tr><td>Network Rail</td><td>Not Applicable</td><td>The REEM methodology uses in-year inflation (November RPI) to uplift baseline prices (CP3 exit point) as set out below :
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Year Inflation</td><td>0.3%</td><td>4.71%</td><td>5.16%</td><td>2.98%</td><td>2.647%</td></tr>
</table></td></tr>
<tr><td>Local Authorities</td><td>Not Applicable</td><td>Gross Total Project Cost including fees adjusted for location and inflation using the BIS PUBSEC TPI and Regional Location Factors to accord with the UK Mean 100. Costs are indexed to 4th Quarter 2013
<table>
<tr><th></th><th>2009/10</th><th>2010/11</th><th>2011/12</th><th>2012/13</th><th>2013/14</th></tr>
<tr><td>Index</td><td>209 to 216</td><td>218 to 220</td><td>218 to 223</td><td>217</td><td>183-188</td></tr>
<tr><td>Inflator</td><td>1.00 to 1.04</td><td>0.99 to 1.00</td><td>0.97 to 1.00</td><td>1.00</td><td>1.00</td></tr>
</table></td></tr>
</table>

ANNEX D: EXTRACT FROM GREATER MANCHESTER CHAMBER OF COMMERCE PIPELINE ANALYSIS

Figure 2: Extract from Greater Manchester Chamber of Commerce Pipeline Analysis[43]



This analysis was able to show where potential skills gap may exist in the Greater Manchester area, and allow mitigation actions such as training that needs to be provided.

A link is provided to the full report at http://gmchamber-stage.s3.amazonaws.com/attachments/930/original.pdf

[43] Extract of Figure 18 of 'Using Construction Pipelines' reproduced with permission from Greater Manchester Chamber of Commerce

Cabinet Office
70 Whitehall
London
SW1A 2AS

www.cabinetoffice.gov.uk