Cabinet Office

Government Construction

Construction Cost Reductions, Cost Benchmarks, & Cost Reduction Trajectories to March 2015

20th July 2015

CONTENTS

Technical Annexes

Document Overview

The report that follows is split into 5 main parts:

Introduction	Introductory narrative providing the context for this publication and a summary of progress made to date. Restatement of departmental cost reduction commitments first published in 2012. These show the speed with which cost reductions have been achieved.
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.
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.

FOREWORD

This is the fourth and final year that the Government will publish construction cost benchmark data in this current format, as part of the broader implementation of the Government Construction Strategy (GCS) 2011-15.

GCS 2011-15, published in a period of low market demand, has delivered efficiency savings of more than £3 billion and started a process of change in the relationship between government and the construction industry by making government a more informed and better coordinated client. This publications fulfils GCS 2011-15's commitment to establish and publish cost benchmarks.

The data demonstrates progress departments have made in reducing construction costs and delivering increased consistency of value for money since the introduction of GCS 2011-15 in 2011. In year efficiency savings have increased year on year since 2011-12 as elements of GCS 2011-15 have been implemented and embedded. These cost reductions represent significantly better-value for the tax-payer, and delivering best-value will remain central to the Government's approach going forward.

The construction industry is facing fresh challenges of inflationary pressures in a rising market, and continuing to collect indicative data from across central government will support government to assess and respond to the impact of these industry changes. Moving forward, government will consider setting new benchmarks to determine progress on areas of policy not previously represented alongside continuing to carefully monitor existing benchmarks.

Dr David Hancock
Deputy Director
Cabinet Office Construction Team

INTRODUCTION

This document provides construction cost benchmarking information from 2009/10 through to 2014/15 and the corresponding trends across the 5 year period, for the core reporting departments in Government Construction Board (GCB[1]) committed to deliver cost reductions at the outset of the Government Construction Strategy (GCS). As collaboration has been extended, other organisations have contributed to the benchmarks such as Network Rail and BIS/SFA, although no comparison to baselines have been made.

It reports on the progress the core departments have made in reducing construction costs, including **full year savings for 2014/15 of £855m[2].** It also reinforces the critical importance of tracking cost trends at a time when increased cost reductions compared across a number of years are accompanied by confirmation of increases in inflation to construction costs.

As the construction industry emerges from a long period of stagnation and recession and growth accelerates, the implementation of a new GCS (and its measures) will offer further opportunities to mitigate increasing construction cost pressures. This publication supports the principle that adopting the key initiatives from the previous GCS, and by benchmarking year on year progress in adopting these measures, that quantifiable cost reductions can be demonstrated. Cross Government collaboration and implementation of these principles, along with 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 – remain at the forefront 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

[1] Core reporting departments are DCLG/HCA, DEFRA/EA, DfE/EfA, DfT/HE, DoH, MoD and MoJ.
[2] In Year savings have been achieved as follows: 2011/12: £72m; 2012/13: £447m; 2013/14: £840m, 2014/15:£855m (core reporting departments contribution towards overall delivery of £1.89bn reported saving).

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[3] reduction in the cost of construction by 15-20% by the end of this parliament - has been achieved to more or lesser degrees 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.

Cost Reduction Achieved✓

The Department of Health's Procure21+ programme use the cost benchmark guides to inform project budgets that the supply chain is then challenged to meet or exceed during the detailed development of the project design. Projects are consistently delivered below the cost benchmarks and project costs are now condensed within narrower cost bands. The Procure21+ programme has ongoing initiatives that will improve still further on the cost benchmarks including a rolling programme of standard room designs.

Cost Reduction Achieved✓

Capturing the cost benchmarking information annually in a consistent approach has enabled Environment Agency (EA) to spot trends and validate their intelligence on cost drivers on the EA programme. They have introduced a new cost capture and estimating tool to analyse programme cost drivers and provide a more robust way to estimate future project costs. This is turn will support their increase in cost led procurement during their longer term settlement from 2015 - 2021 through providing robust 'should be' costs. To date this approach has been utilised successfully during the negotiation of the Thames Estuary Project Tender process.

[3] Without adversely impacting either whole life value or the long term financial health of the construction industry.

Cost Reduction Achieved✓

The Ministry of Defence has used existing cost benchmarks to successfully challenge its supply chain to beat the benchmark which has resulted in significantly reduced costs and improved value for money.

Future Construction Strategy

Following the success of the previous GCS, the Government Construction team will be seeking approval to launch a new strategy to cover the next 5 years to 2020. This will include embedding some of the initiatives of the previous GCS, as well as introducing a range of new workstreams to be agreed and adopted by the GCB. For the purposes of benchmarking, new standards and benchmarks will be identified. Measures for Benchmarks not traditionally associated with cost reductions such as Carbon Reduction and Apprenticeships (part of the Earn or Learn initiative) will be developed to demonstrate how these can benefit in the overall efficient delivery of a built asset when taken as part of an overall estates strategy. 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.

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 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 through relationship analysis related to outturn costs, such as skills gaps driving inflation. There will be increased pressures to maintain cost reductions in a rising market, and against a new baseline, but benchmarks provided in this document will provide the basis against which to monitor progress by departments over the next 5 years.

DEPARTMENT 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 2014/15 cost benchmarks (refer to Charts 7 to 33).

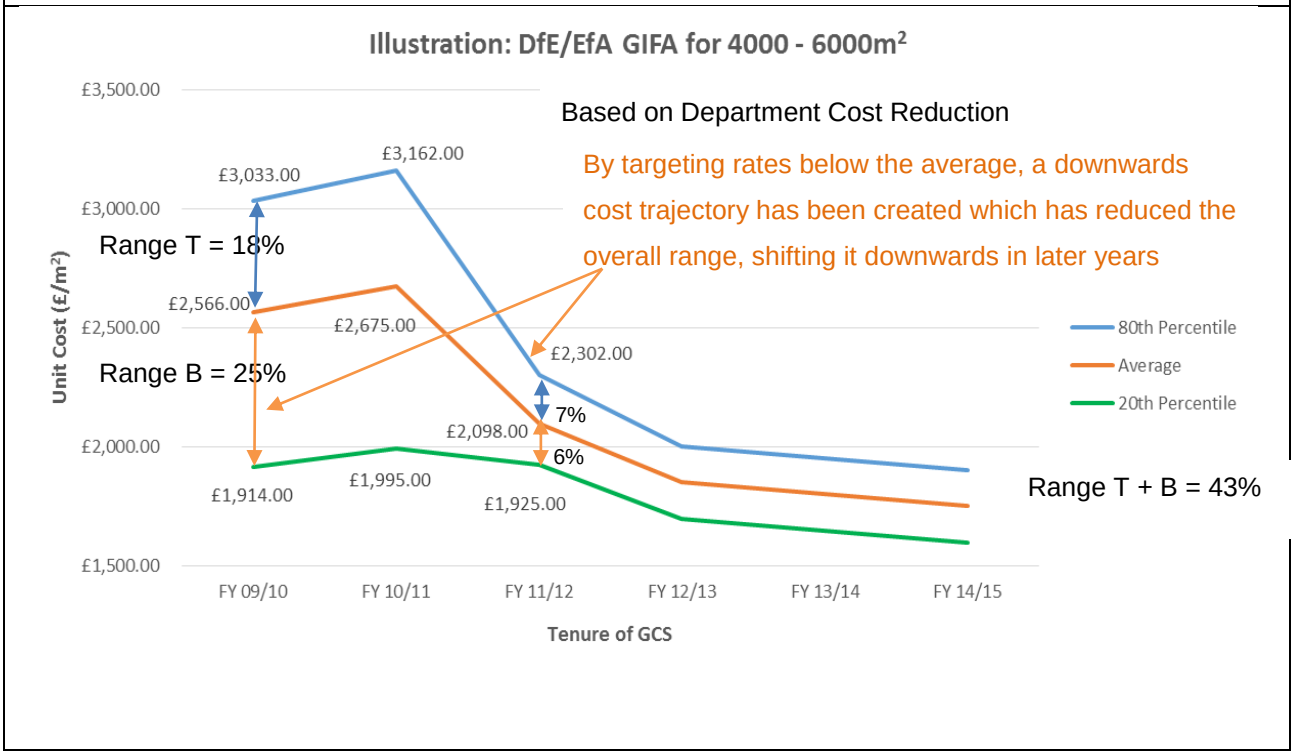
Corresponding trends can also be seen in the tables (refer to Table 6 to Table 16, Table 21 to Table 27 and Annex A) which provide annual data from 2009/10 (baseline year) through to 2014/15. The accompanying charts (Charts 34 to 47) also show recent trends.

These trends, taken together with the overall cost reductions of £447m in 2012/13, £840m in 2013/14 and £855m in 2014/15 reported in Table 3 below, indicate that departments continued 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 7 to 33 for the 2009/10 baseline typically ranged from circa 10% to 30%.

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 15).

Chart 1: Note on Range T

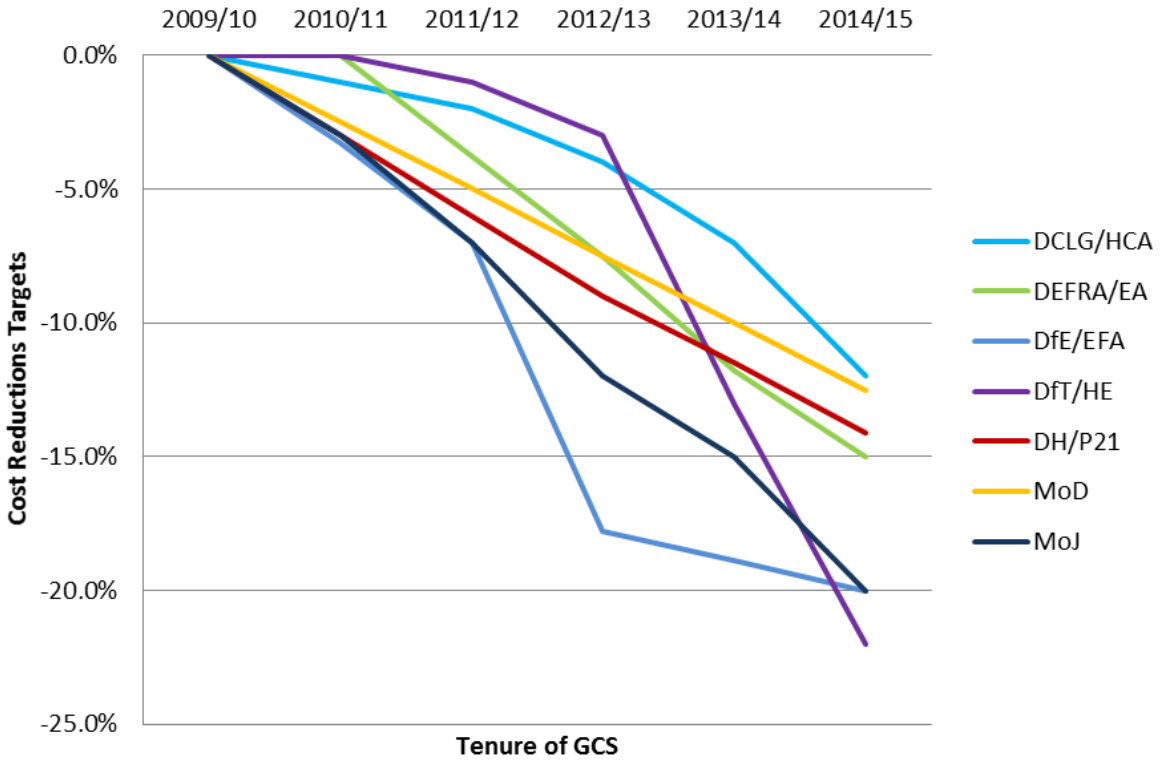


A more detailed analysis of the Range T and Range T+B values is presented with the charts in Part 2 of this document with corresponding commentary provided in Table 5.

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 28 to 35.

Cost Reduction Trajectories: The Cost Reduction Trajectories included in this document (Table 1) – which are shown in graphical form in Chart 2 below - confirmed that departments were committed to trajectories that will deliver between 12% and 20% by the end of this Parliament. The departmental initiatives that have been implemented to achieve these trajectories have been set out in Table 4 and show respective achievements in Charts 4 to 6. Cabinet Office will continue to work with departments to ensure trajectories are developed for the next GCS to enable further sustainable cost reductions.

Chart 2: Department Cost Reduction Target Trajectories



Cost Reductions achieved from 2011/12 through to 2014/15: Table 3 in Part 1 of this document states the cost reductions achieved from 2011/12 to 2014/15. Charts 4, 5, and 6 compare the resulting cost reduction percentages to the department trajectories set out in Table 1 and Chart 2. The IN YEAR cost reductions from 2011/12 to 2014/15 in Table 3 have been subject to Cabinet Office internal audit[4]. For 2011/12 these are also shown with the indicative WHOLE PROJECT LIFE[5] cost reductions for some departments. For 2012/13, 2013/14 and 2014/15 all departments provided IN YEAR cost reductions.

[4] 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 to 2014/15).
[5] 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.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

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

- **In-year:** £72m[6] on an expenditure of £476m (13.1%).

In contrast, the overall cost reductions declared by departments from 2012/13 to 2014/15 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 Year 2014/15**: £855m on an expenditure of £3.6bn (23.6%)

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 from 2011/12 to 2014/15. The relatively high overall percentages reflect that a significant proportion of reported data is from DfE/Education Funding Agency and DfT/Highways England. 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.

6 Only two departments reported in year cost reductions for 2011/12 (DfE/Education Funding Agency and DfT/Highways England).

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

The Cost Reduction Trajectories detailed in Table 1 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.

Table 1: 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%[7]	9.0%	11.5%	14.1%
DEFRA/EA[8]	-	0.0%	3.8%	7.5%	11.8%	15.0%
DfT/HE	0.0%	0.0%	1.0%	3.0%	13.0%	22.0%
DCLG/HCA	0.0%	1.0%[9]	2.0%	4.0%	7.0%	12.0%
MoD	0.0%	2.5%	5.0%	7.5%	10.0%	12.5%
MoJ[10]	0.0%	3.0%	7.0%	12.0%	15.0%	20.0%
DfE/EFA[11]	0.0%	3.3%	7.0%[12]	17.8%	18.9%	20.0%

7 This refers to the second half of 2011/12. .
8 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).
9 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.
10 The MoJ cost reduction trajectory has been developed on the basis of typical house block projects and will be applied as far as possible to all projects.
11 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.
12 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

INTRODUCTION: COMPARISON WITH DOCUMENT PUBLISHED 2ND JULY 2014

Table 2 provides a summary comparison with the version of this document published 2nd July 2014[13].

Table 2: Comparison with the previous version of this document published 2nd July 2014

Relevant Sections	Adds updates to earlier data	Data / reports published for the first time
Part 1: Cost Reductions		
Cost Reductions achieved from 2011/12 to 2014/15	Table 3 contains an update column for 2014/15 with full year savings. Table 4 contains updates to departmental commentary. Charts 4 and 5 updated to allow clearer demonstration of department reductions.	New Chart 6 to allow clearer demonstration of department cost reductions achieved.
Part 2: Cost Benchmark Data		
Cost distribution charts	Baseline charts remain unchanged. Departmental	New Charts 23 to 28 for Ministry of Defence (MOD) Technical buildings added.

DfE/EFA programmes offered less scope for the implementation of the DfE / EFA initiatives described in Table 20 and the corresponding significant cost reductions.

13 Link to previous publication. https://www.gov.uk/government/publications/construction-costs-departmental-reductions-2013-2014

Table 2: Comparison with the previous version of this document published 2nd July 2014		
Relevant Sections	Adds updates to earlier data	Data / reports published for the first time
	charts 8 to 22 updated to reflect 2014/15 data. Charts 29 to 33 for DfE and National Schools Delivery Cost Benchmarking NSDCB) updated.	
Tables and Trend Charts	Tables 6 to 16 updated with 2014/15 data. Charts 34 to 51 updated with 2014/15 data where available.	New Table 13 added for Ministry of Defence (MOD) Technical buildings. New charts 52 to 57 added for Ministry of Defence (MOD) Technical buildings.
Elemental Cost Tables and Charts	Updates to Table 18 to 20 departmental commentaries.	
Regulated and Wider Public Sectors: Cost Tables	Update to Table 21 to 27 London Underground Ltd (LuL), NR and NSDCB data for 2014/15.	
Part 3: Use of Cost Benchmarks		
Dept Progress in Generating Public Private Comparisons	Minor narrative changes to departmental progress, Tables 28-35.	N/A
Part 4: Cost Reduction Trajectories		
Part 4: Department Cost Reduction Trajectories	Deleted and incorporated into Introduction	N/A

Table 2: Comparison with the previous version of this document published 2nd July 2014		
Relevant Sections	Adds updates to earlier data	Data / reports published for the first time
Technical Annexes		
Annex A: Regional DCLG/Homes & Communities Agency data	Updates to Table 36 to 40 to include 2014/15 data.	N/A
Annex B: Cost Components within Department Cost Benchmarks	Updates to Table 41 to 44.	
Annex C: Inflation Adjustments	Updates to Table 45 departmental commentary.	N/A
Annex D:	Extract from Greater Manchester Chamber of Commerce Pipeline Analysis deleted.	Glossary of Terms introduced
Annex E: Acknowledgements		List of contributors to the D&CB report

PART 1: COST REDUCTIONS

COST REDUCTIONS ACHIEVED FROM 2011 THROUGH TO 2014/15

Initial cost reductions for 2011/12 reported in Table 3 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*[14].

Table 4 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, 2013/14 and 2014/15.

The IN YEAR cost reductions from 2011/12 to 2014/15 shown in Table 3 have been subject to audit[15] by Government Internal Audit Agency (GIAA)

[14] Link to Cost Validation Method - https://www.gov.uk/government/publications/construction-costs-departmental-reductions-2010-2011

[15] 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, 2013/14 and 2014/15).

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 3: Cost reductions achieved April 2011 to March 2015[16]					
Department	**Results Category**	**2011/12[17] IN YEAR (unless noted WPL = Whole Project Life)**	**2012/13 IN YEAR**	**2013/14[18] IN YEAR**	**2014/15 IN YEAR**
BIS / SFA	Actual Cost Reductions	n/a	n/a	£58m	£56m
	Actual % Cost Reduction	n/a	n/a	10%	7.3%
DCLG / HCA	Published Cost Reduction Trajectory	2.0%	4.0%	7.0%	12%
	Actual Cost Reductions	£16m (WPL)	£35m	£42m	£70m
	Actual % Cost Reduction	11.0% (WPL)	11.7%	13.3%	12.4%
DEFRA / EA	Published Cost Reduction Trajectory	3.8%	7.5%	11.8%	15%
	Actual Cost Reductions	£6m (WPL)	£17 m	£20m	£27m
	Actual % Cost Reduction	3.6% (WPL)	8.7%	14.1%	15.3%

[16] Some figures may not sum due to rounding.
[17] Facilitating overarching Cabinet Office reporting of progress from 2011/12 to 2014/15, 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.
[18] All reported savings can be sourced from the Cabinet Office Technical Note https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/453542/2014-15_savings_validation__report.pdf

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Table 3: Cost reductions achieved April 2011 to March 2015[16]					
Department	**Results Category**	**2011/12[17] IN YEAR (unless noted WPL = Whole Project Life)**	**2012/13 IN YEAR**	**2013/14[18] IN YEAR**	**2014/15 IN YEAR**
DfE / EFA	Published Cost Reduction Trajectory	7.0%	17.8%	18.9%	20%
	Actual Cost Reductions	£51m (WPL: £138m)	£86m	£127m	£149m
	Actual % Cost Reduction	12.2%	11.3%	31.4%	29%
DfT / HE-MP	Published Cost Reduction Trajectory	1.0%	4.0%	10%	17%
	Actual Cost Reductions	£21m (WPL:£81m)	£115m	£379m	£303m
	Actual % Cost Reduction	16.0%	22.0%	27.7%	33.1%
DfT / HE-NDD	Actual Cost Reductions	n/a	£163m	£119m	£84m
	Actual % Cost Reduction	n/a	18%	15%	8.5%
DoH / P21	Published Cost Reduction Trajectory	6.0%	9.0%	11.5%	14.1%
	Actual Cost Reductions	£22m (WPL)	£15 m	£60m	£52m

Table 3: Cost reductions achieved April 2011 to March 2015[16]					
Department	**Results Category**	**2011/12[17] IN YEAR (unless noted WPL = Whole Project Life)**	**2012/13 IN YEAR**	**2013/14[18] IN YEAR**	**2014/15 IN YEAR**
	Actual % Cost Reduction	2.9% (WPL)	6.8%	12.9%	15.6%
MoD	Published Cost Reduction Trajectory	5.0%	7.5%	10%	12.5%
	Actual Cost Reductions	£4m (WPL)	£1m	£8m	£99m
	Actual % Cost Reduction	5.30%	10.0%	9.3%	27%
MoJ	Published Cost Reduction Trajectory	7.0%	12.0%	15%	20%
	Actual Cost Reductions	£12m (WPL)	£15m	£25m	£15m
	Actual % Cost Reduction	10.3% (WPL)	16.5%	18.4%	17.6%
Totals		IN YEAR: £72m (WPL: £279m[19])	IN YEAR: £447m	IN YEAR: £840m[20]	IN YEAR £855m

[19] The WHOLE PROJECT LIFE figure of £279m includes the IN YEAR figure of £72m.
[20] The Construction cost reduction figure published in the Cabinet Office Technical note was rounded to the nearest £1m and the audited figure is £1.89bn. The core Departmental figures for 2014/15 reported in this document have been rounded to the nearest £1m and is £855m. The Actual % Cost Reduction is based on the Actual departmental saving.

The figures in Table 3 only reflect the efficiencies achieved by the core spending departments on the GCB who committed to achieving forecast trajectories through implementation of GCS initiatives, with the later addition of BIS/SFA. As a consequence it is only these departments that provide a narrative description of how their savings were achieved in Table 4, so the link to the GCS can be established.

In addition to the Central Government cost reductions reported in Table 3 above, cost reductions achieved by Network Rail (NR) are also included in this publication for the second year. 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 below relate to 2013/14 and are considered representative of those expected for 2014/15. Further commentary and detail on NR savings is set out in the annual IUK Infrastructure Cost Review report.

- **In-Year 2013/14:** £357m[21] on an expenditure of £3.44bn[22] (10.4 %)

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.

[21] The portion of the total cost reduction reported here relates to those components of Network Rail's total construction relevant cost reduction for 2013/14 that were agreed as eligible by internal audit when compared with the other cost reductions presented by Central Government departments. These savings were not included in the Technical Note reported savings.
[22] Maintenance and Renewals expenditure from which Efficiencies were delivered only.

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015

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 £/m^2 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 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.

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015	
Department	**Commentary on the source of cost reductions**
	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 (15%) and value engineering using innovation and alternative methods to deliver the same outcome (47%). 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 each project milestone.
DfT/ Highways England	In 2011/12 the HE had committed to save 20% off the original 14 SR10 Major Projects. In the Autumn Statement 2011 HE 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 HE agreed target costs on a further 5 schemes: M6 J5-8 (BBox3), A11 Fiveways, $m^2$5 J5-7, $m^2$5 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

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015

Department	Commentary on the source of cost reductions
	management of commodities; improved risk and value management; reducing waste/increasing productivity. The cost reductions achieved by HE in relation to highways maintenance, renewals and enhancements have been a result of implementing similar measures to those highlighted immediately above for HE's Major Projects programme. In addition to these efficiency measures, HE 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, 2013/14 and 2014/15 respectively and baseline rates from 2009/10; with the actual 2011/12 through to 2014/15 construction spends reported by affordable 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 the 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 of individual affordable housing providers. 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

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015	
Department	**Commentary on the source of cost reductions**
	Cabinet Office to develop the evidence base for the forecast trajectory addressing in particular: • analysis of cost data for the 2011-15 Affordable Homes Programme 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 performance; • dialogue with providers - in particular through quarterly and 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 and 2014/15, 20% of schemes made up over 50% of the total m^2).

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015

Department	Commentary on the source of cost reductions
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, Service Families Accommodation and various Technical Buildings procured for the period in question. The cost reductions have been derived on the basis of award costs (target prices) for contracts awarded between 2013/14 and 2014/15 with construction durations up to 2016/17 with the majority of spend in 2014/15. The Single Living Accommodation cost reductions 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 continuing to fully satisfy the needs of the service community - are stripped of any expenditure where resultant 'added value' is considered questionable. Having previously expanded the approach to Service Families Accommodation and Airfield Pavements, MoD have further extended the process to other accommodation types required as part of its Army Re-basing Programme and other programmes. These accommodation types are Offices, Messing (kitchens, dining and function rooms etc), Stores, Mechanical Transport Accommodation/Garages, Medical and Dental Accommodation and Education/Training Facilities.

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015	
Department	**Commentary on the source of cost reductions**
	MOD is also investigating extending it to other accommodation types to include: • Hangars; • Physical and Recreational Training Facilities; • Guardrooms; • Air Traffic Control Centres; • Armouries; and • Explosive Stores. In doing so, MoD has made the most of its membership of the Joint Data and Cost 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 have commenced work on the development of a 'Solutions Library' of Exemplar Designs for all accommodation types. To date 'Standards Designs' are being produced for: • Single Living Accommodation; • Service Family Accommodation; and • Messing.
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

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015

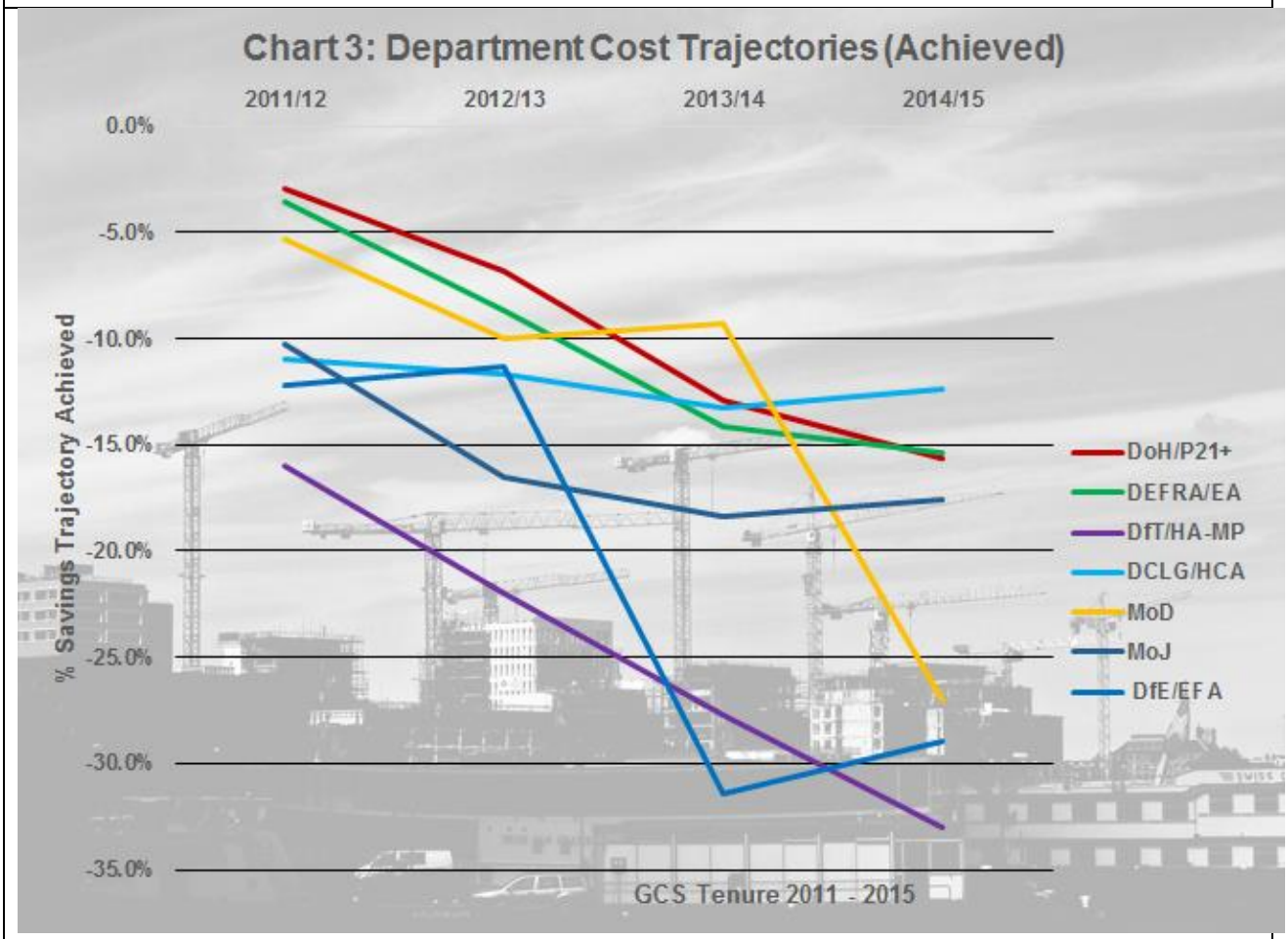
Department	Commentary on the source of cost reductions
	basis of the cost per square metre of the projects reaching Agreed Maximum Price Stage compared to the cost per square metre of comparable 2009/10 benchmark projects. The data gathered by MoJ using the Cost Component Breakdown has demonstrated further 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	Across all programmes schools are being delivered at 33% less than those procured during the previous parliament (2005-10). 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 and reducing circulation spaces.
All Departments	**Common characteristics of Cost Reductions:** The most common form of cost reduction, and the focus for this publication, has been the application of Cost Benchmarks in understanding the true cost drivers in sector specific construction. Cross departmental reviews have allowed dialogue between departments to compare how well they have been procuring down to elementals, cost components, and work packages. Departments have then been able to approach the market with a realistic base against which to challenge suppliers to 'beat the benchmark'. Greater use of standardisation of Design and materials has provided leverage in bulk purchasing for reduced range of products.

Table 4: Construction related Departmental Cost Reductions achieved between April 2011 and March 2015	
Department	**Commentary on the source of cost reductions**
	Adopting Lean Procurement principles, and Early Contractor Involvement (ECI) to understand the required construction outcome allows for a reduction in the procurement lead times for both Client and supplier. Procuring for a reduction in waste, reduces energy and transportation costs, reduces waste to landfill and provides a platform for carbon reduction in the built environment. Off-site construction also has the potential for greater use of recycling materials used in the construction process.

Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

The Actual savings being achieved by departments from 2011/12 through to 2014/15, and shown in Table 3, have been produced graphically in Charts 3, 4, 5, and 6.

Chart 3: Department Cost Trajectories (Achieved)

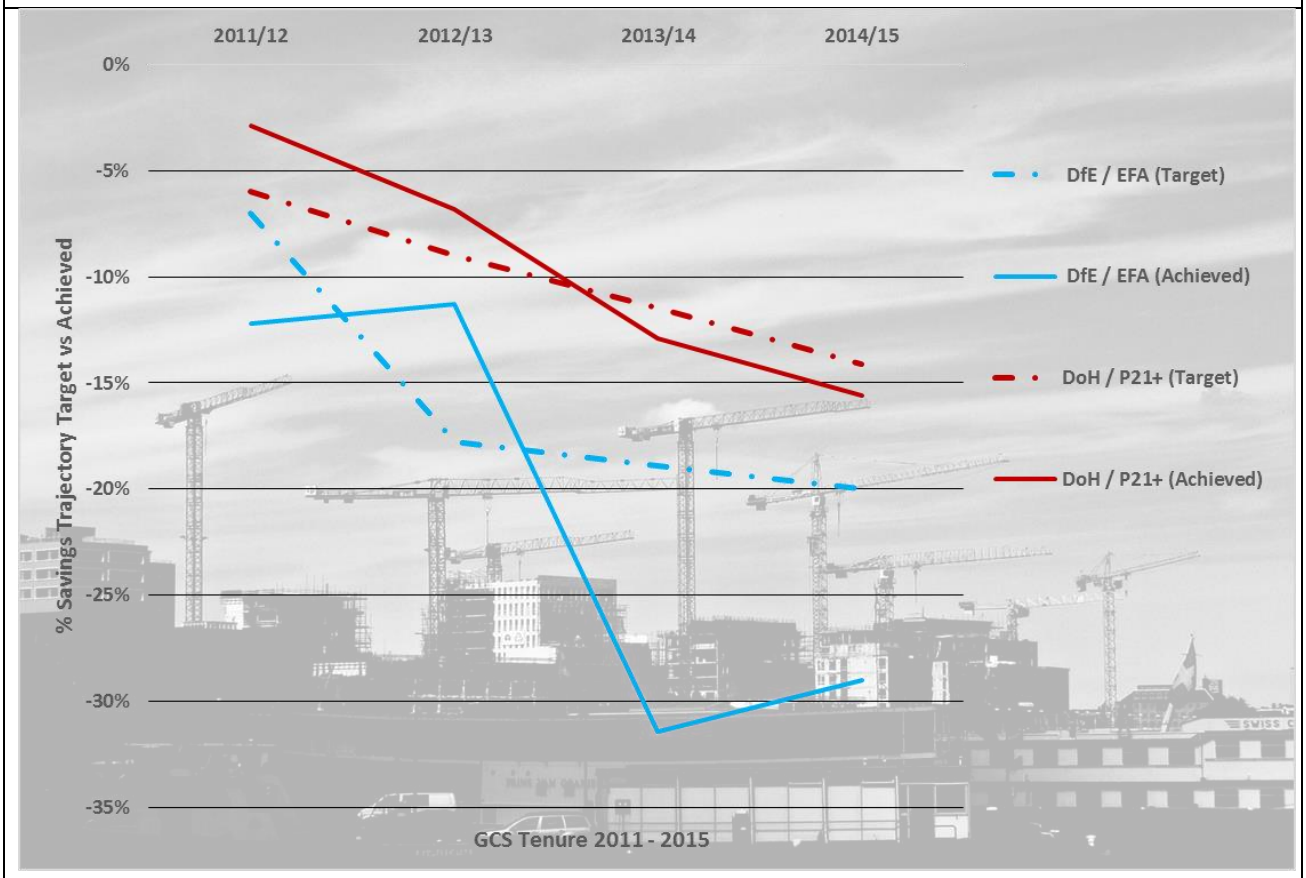


Charts 4, 5 and 6 below compare the achievements by department against their respective targets, through adoption of the principles of Data and Cost benchmarking and the initiatives in the GCS.

Note: The departmental groupings have been selected to optimise graphical clarification, and not for the purposes of comparing departmental performance.

Chart 4 shows that DfE/EfA significantly exceeded their target, although this tailed back in FY 14/15. DoH also achieved an exceeded target by 1%.

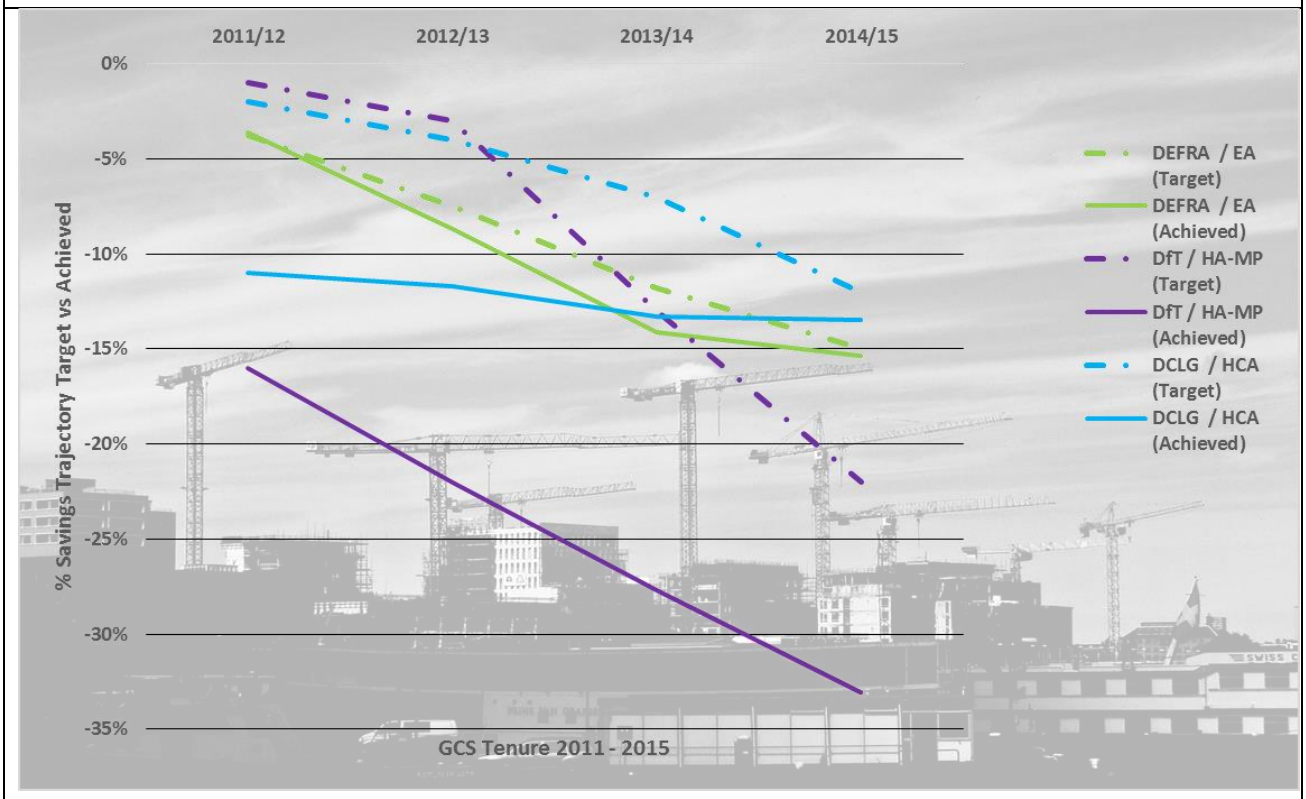
Chart 4: DfE/EfA and DoH Cost Reduction Trajectory Comparator



Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Chart 5 shows that DfT/HE-MP significantly and consistently delivered above their forecast target, with DEFRA/EA and DCLG/HCA both narrowly surpassing their respective targets.

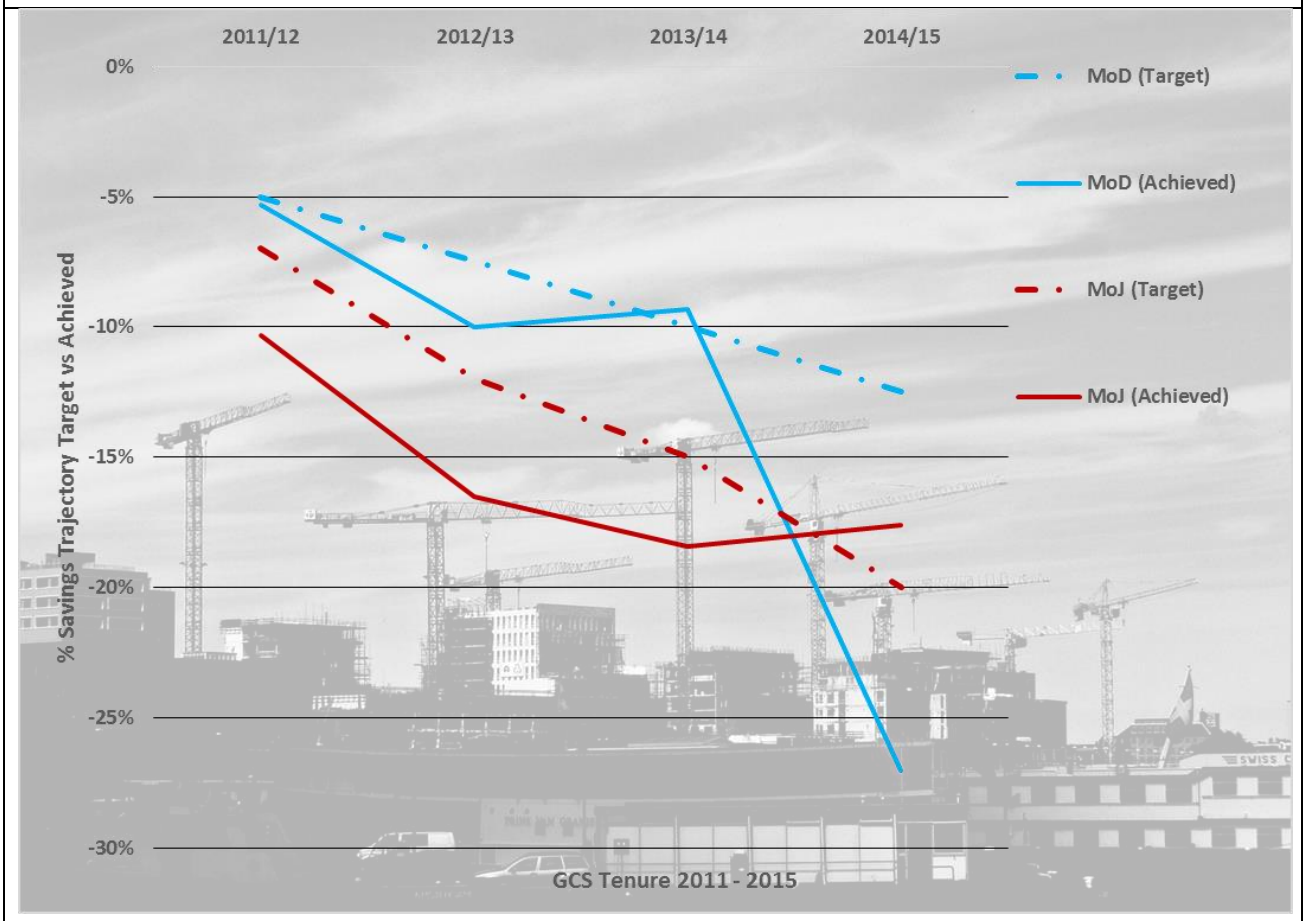
Chart 5: DEFRA/EA, DfT/HE-MP, DCLG/HCA Cost Reduction Trajectory Comparator



Cost Reductions, Cost Benchmark Data and Cost Reduction Trajectories

Chart 6 shows that after a slow start, MOD have made significant progress in reducing benchmark costs. MoJ have not achieved their in year target for FY 14/15, but this has been primarily due to rescheduling project completions to FY 15/16.

Chart 6: MOD and MOJ 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[23]. Typically the charts present the 2009/10 baseline cost distribution, while the tables also provide more recent data from 2010/11 to 2014/15.

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 £.

[23] The Highways England 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 England 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.

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.

Cost benchmark data for each organisation are presented in Charts 7 to 33, Tables 6 to 16, 21 and 22, and 24 to 26 and also in Annex A below. These are to be read in conjunction with:

- Tables 18 to 20, 23 and 27 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 to 2014/15 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 15, 16, 22 and 31.

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 2014/15 unit costs against the 2009/10 baseline have now also been included.

Though it should be expected that costs will continue to encompass a range, over time the distribution of costs should show a downward trajectory with narrowing of the 80th and 20th percentiles towards the medium (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 6 to 16 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 5: Definition of Range T, Range T+B and Range B used in the following cost distribution charts

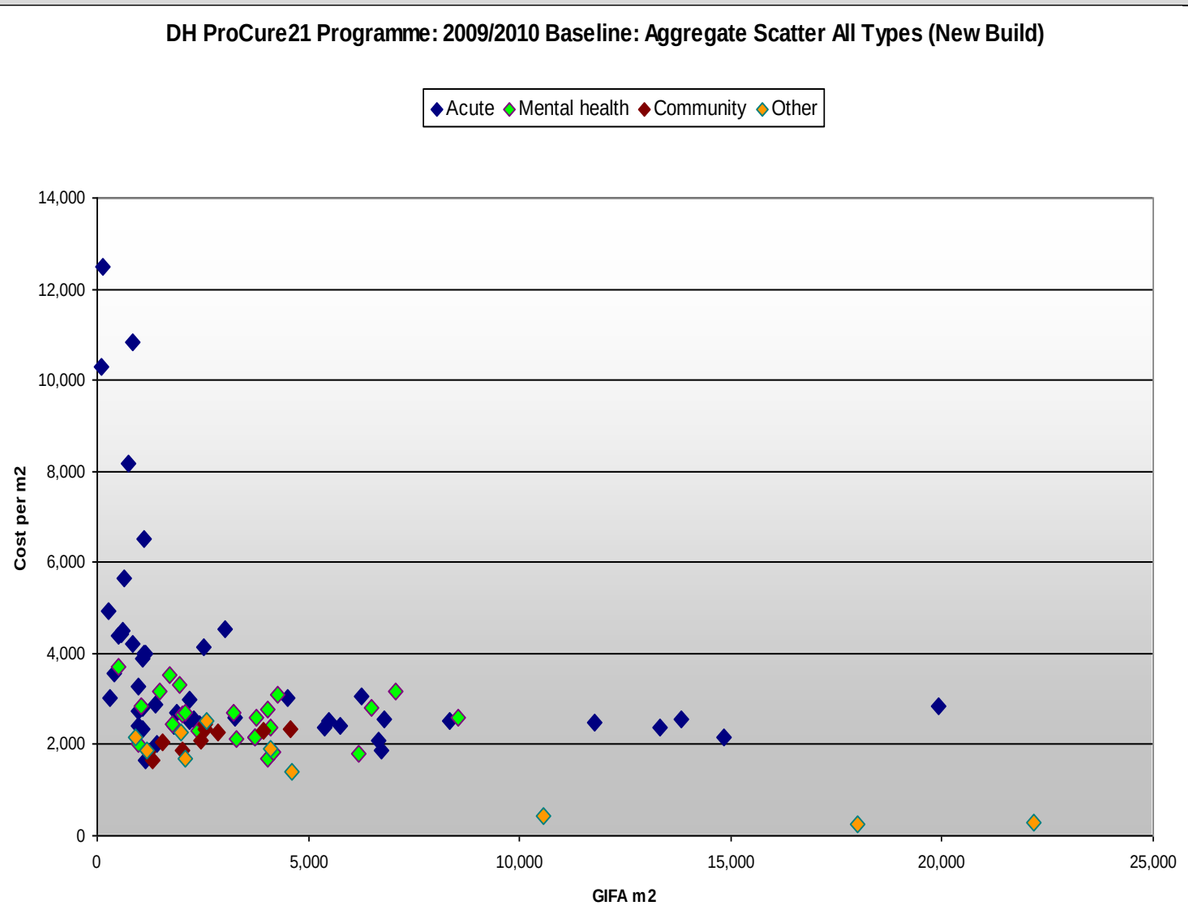
Reference in Charts	Definition (Refer also to Chart 1 from the introduction)	Commentary
Range T	Percentage difference between the 80th percentile and the average[24], divided by the average.	Range T values greater than 15-20% (marked thus ✓) indicate that consistent cross Government targeting of costs 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.

[24] Average when used in Table 5 refers to the single point averages in Tables 6 to 16 and Annex A i.e. typically the arithmetical mean.

Table 5: 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+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 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 7: 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 6 and Table 18 for more details.

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

Acute: **80th:** £4440/m2; **Av:** £3730/m2; **20th:** £2400/m2

Range T: 19% ✓

Mental Health: **80th:** £3160/m2; **Av:** £2620/m2; **20th:** £2130/m2

Range T: 21% ✓

Community: **80th:** £2330/m2; **Av:** £2120/m2; **20th:** £1880/m2

Range T: 10%

Range T+B: 21% ✓

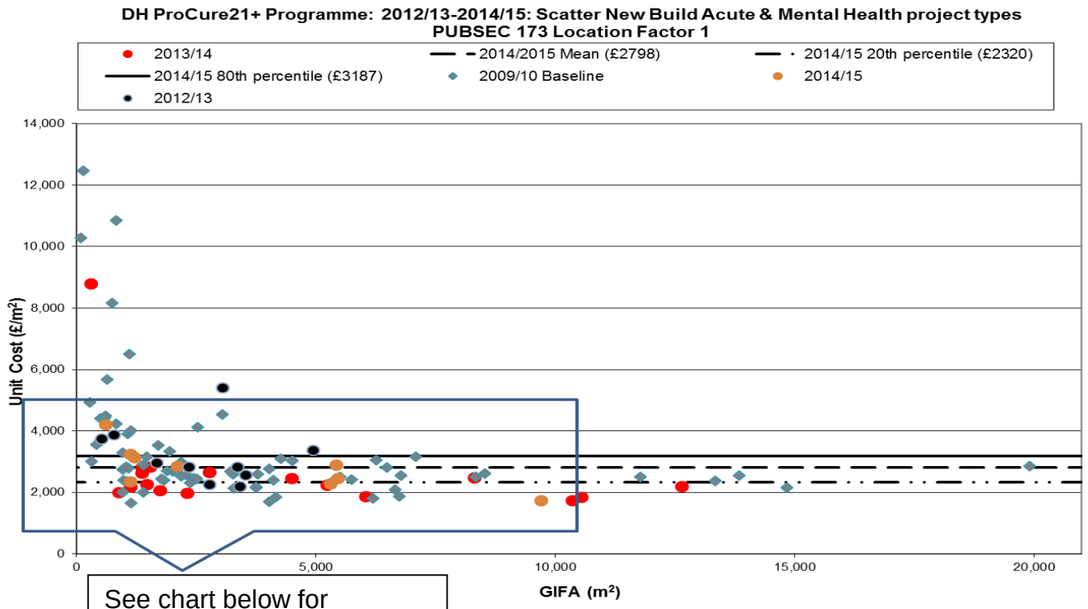
Other: **80th:** £2200/m2; **Av:** £1480/m2; **20th:** £450/m2

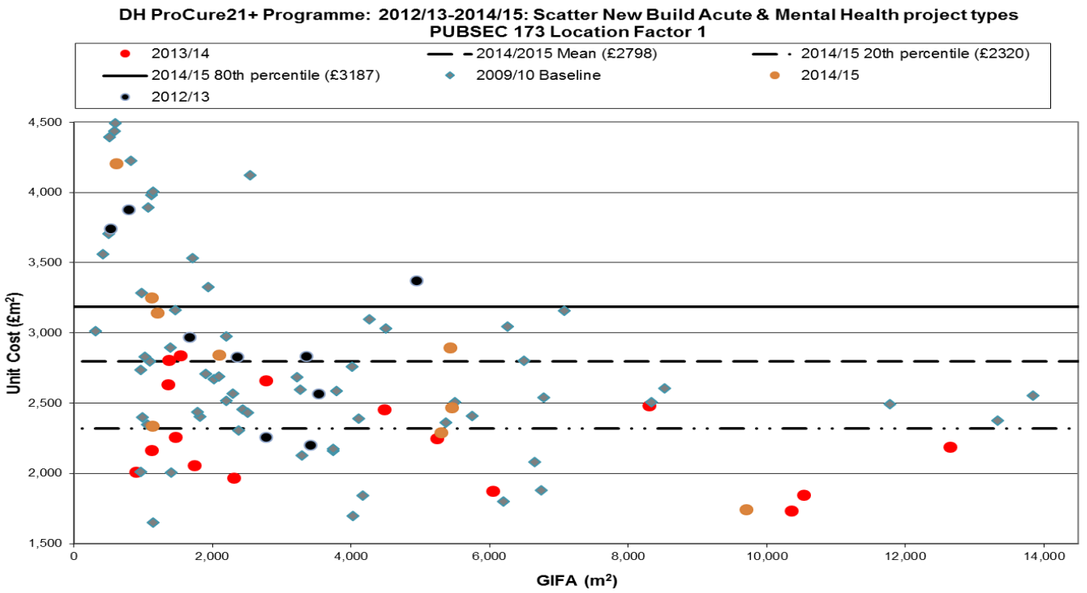
Range T: 49% ✓

Chart specific commentary: Healthcare projects vary considerably in terms of functional content, scope and complexity as reflected in the distribution of costs per m2.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 £/m2 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 £/m2. Similarly other projects can be simple in nature, such as multi storey car parks on greenfield sites with relatively low £/m2. A very small number of projects can potentially be subject to a combination of several cost significant factors that results in a £/m2 outside normal expectations.

Chart 8: Construction Cost Benchmarks for Department of Health (P21+ Framework): New Build 2014/15





What this cost data represents: Normalised new build cost data from 2012/13 to 2014/15 for Acute and Mental Health Project Types.

Corresponding cost data tables: Refer to Tables 6 and 18 for more details, together with Annex C where the terminology relating to PUBSEC 173 and Location Factor 1 is explained.

2014/15 data: Averages and 20th/80th percentile thresholds:

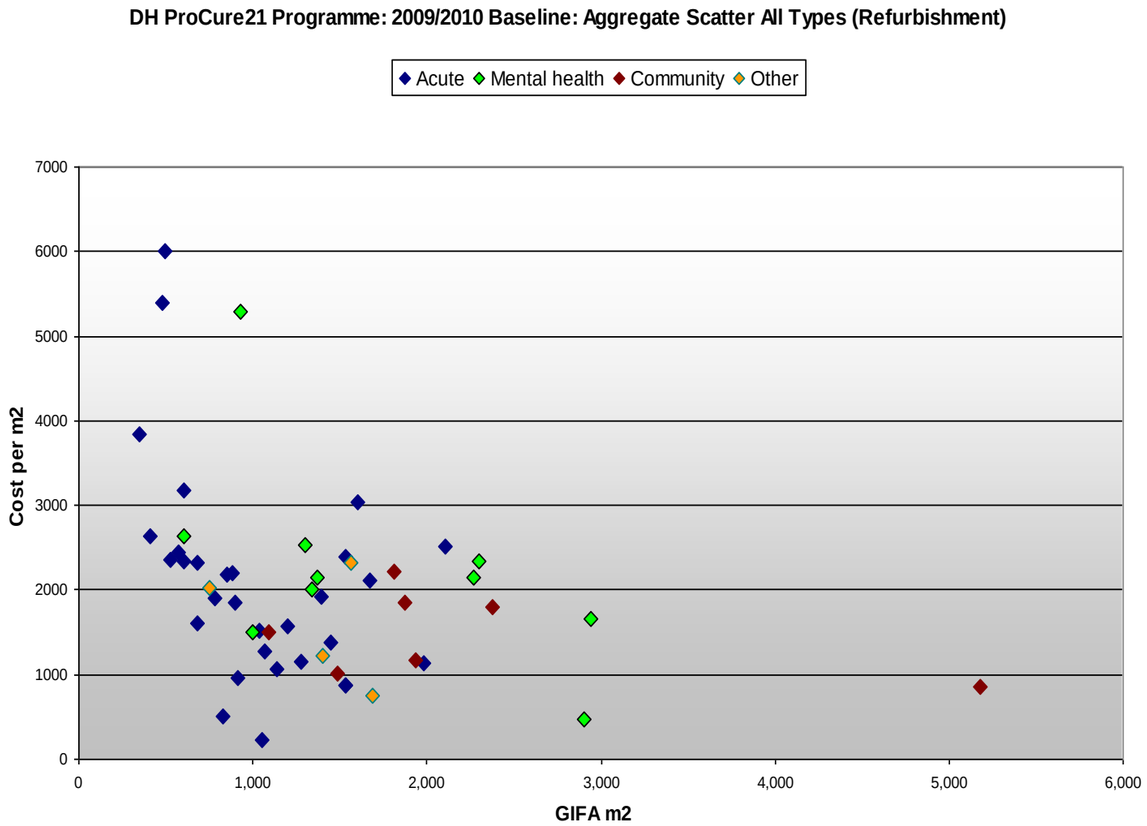
Acute: **80th:** £3187/m²; **Av:** £2798/m²; **20th:** £2320/m²

Range T: 14% (**trend:** Range T 9% less than 2009/10 baseline)

Range T+B: 31%✓

Chart specific commentary: Project costs (£/m²) for the period shown are concentrated within a narrower and lower price, value for money 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. Only Acute and Mental Health projects are shown due to the lack of projects in the 'Primary Care' and 'Other' project type areas shown in previous years.

Chart 9: 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 6 and Table 18 for more details.

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

Acute: **80th:** £2520/m^2; **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% ✓

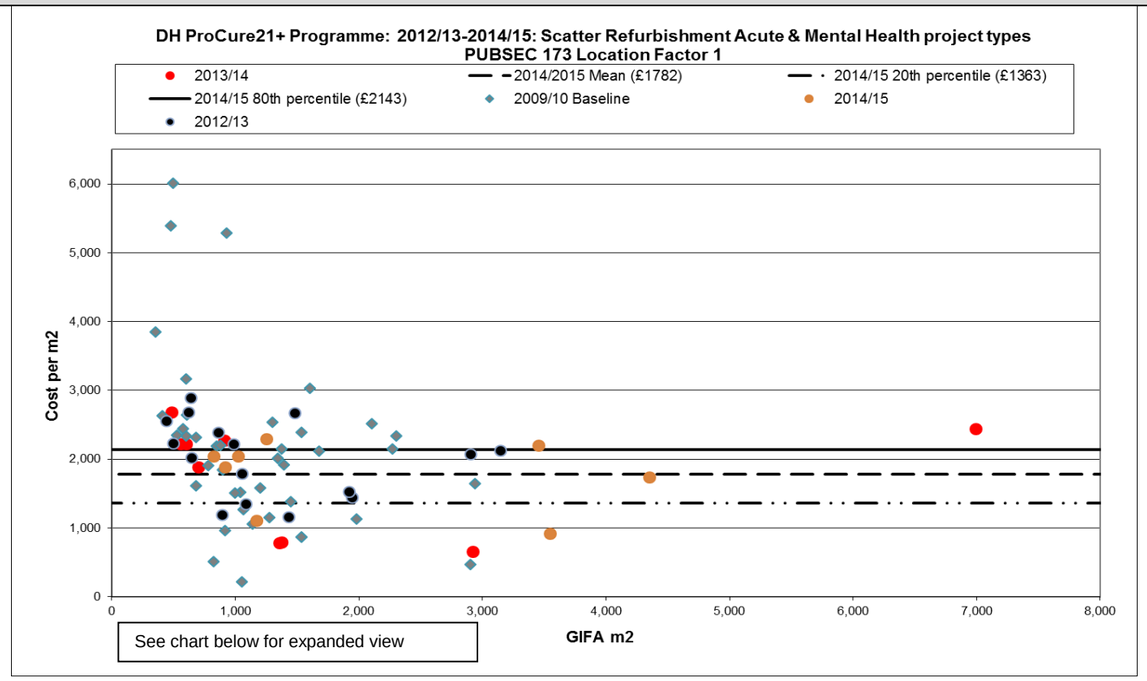
Other: **80th:** £2000/m^2; **Av:** £1580/m^2; **20th:** £1220/m^2

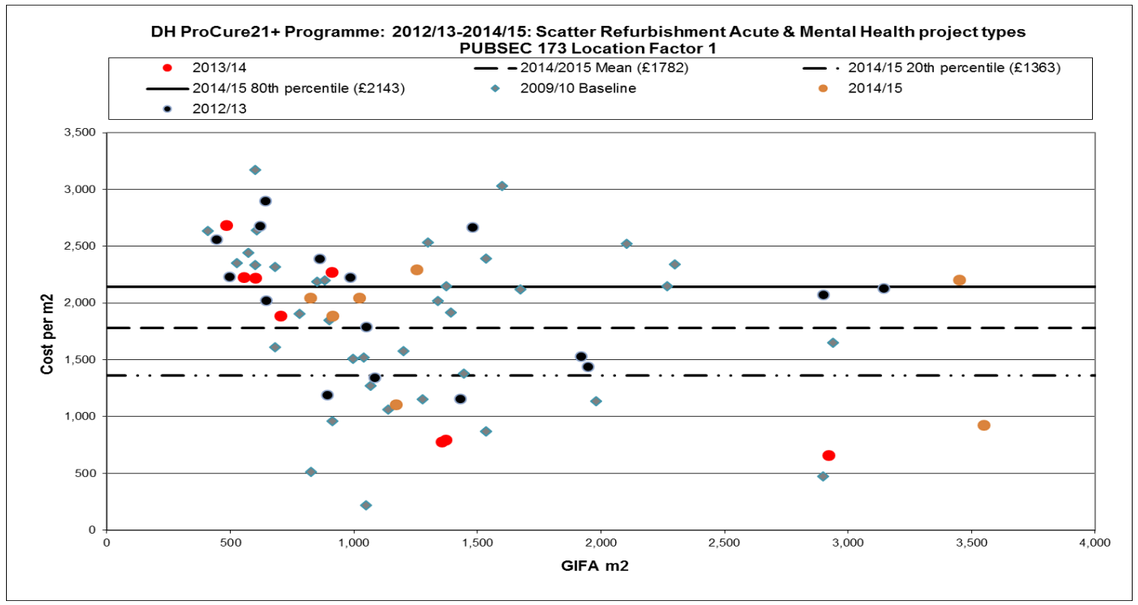
Range T: 27% ✓

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 10: Construction Cost Benchmarks for Department of Health (P21+ Framework): Refurbishment 2012/13 to 2014/15





What this cost data represents: Normalised refurbishment cost data for 2012/13 to 2014/15 for Acute and Mental Health Project types.

Corresponding cost data tables: Refer to Tables 6 and 18 for more details, together with Annex C where the terminology relating to PUBSEC 173 and Location Factor 1 is explained.

2014/15 data: Averages and 20th/80th percentile thresholds:

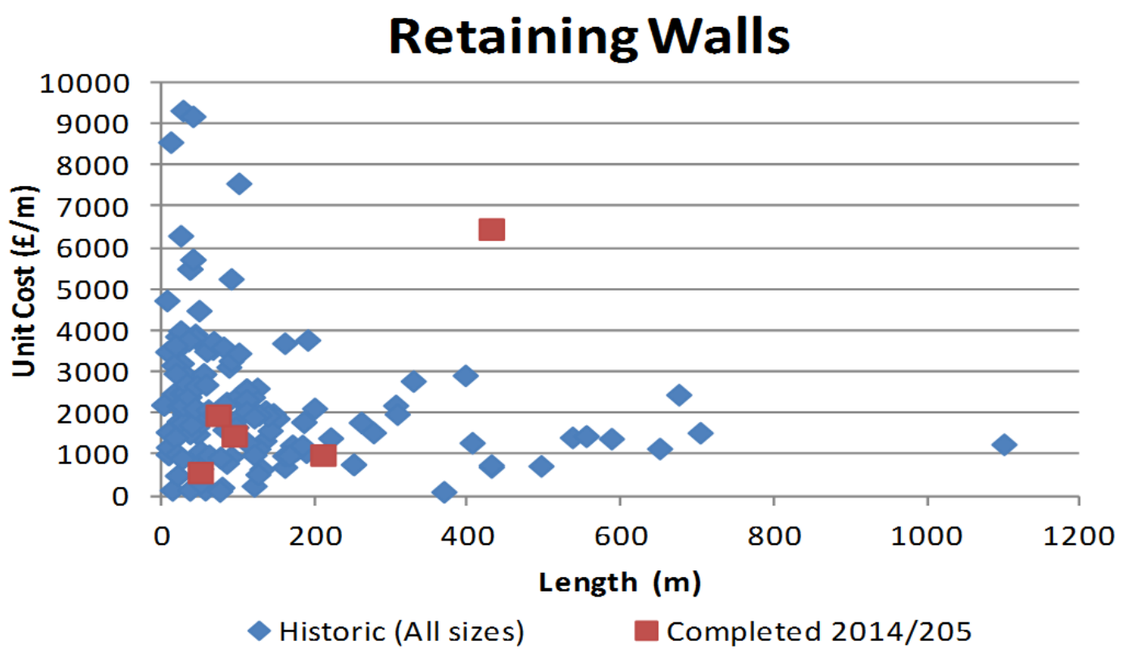
Acute: **80th:** £2143/m²; **Av:** £1782/m²; **20th:** £1363/m²

Range T: 20% ✓ (**trend:** Range T 1% less 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 2012/13 to 2014/15 continue to show a concentration within a narrower range than the 2009/10 baseline but valid comparisons are restricted by the small number of projects within this project type, with only Acute and Mental Health projects being shown due to lack of projects in the ‘Primary Care’ and ‘Other’ project types shown in previous years.

Chart 11: 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 (2009/10 to 2014/15) 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 7 and Table 18 for more details.

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

80th: £2162/m; **Av:** £1602/m; **20th:** £1042/m

Range T: 35% ✓

Note: Data given in 2011/12 prices.

2014/15 data: Averages and 20th/80th percentile thresholds:

80th: £2845/m; **Av:** £2285/m; **20th:** £1725/m

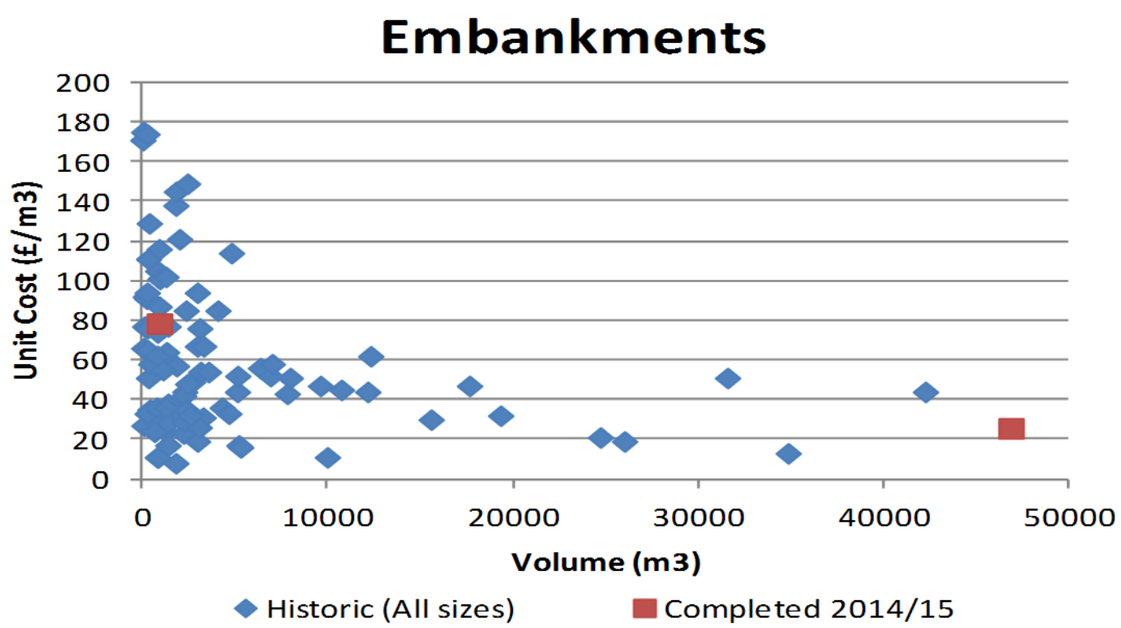
Range T: 25%✓ (**trend:** Range T 10% less than baseline)

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;

The highest individual unit cost this year is due to the exceptionally complex nature of the Boston Havens project.

Chart 12: Construction Cost Benchmarks for DEFRA/Environment Agency: Embankments



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 (2009/10 to 2014/15) 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 7 and Table 18 for more details.

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

80th: £42/m^3; **Av:** £32/m^3; **20th:** £18/m^3

Range T: 31% ✓

Note: Data given in 2011/12 prices.

2014/15 data: Averages and 20th/80th percentile thresholds:

80th: £42/ m^3; **Av:** £28/ m^3; **20th:** £15/ m^3

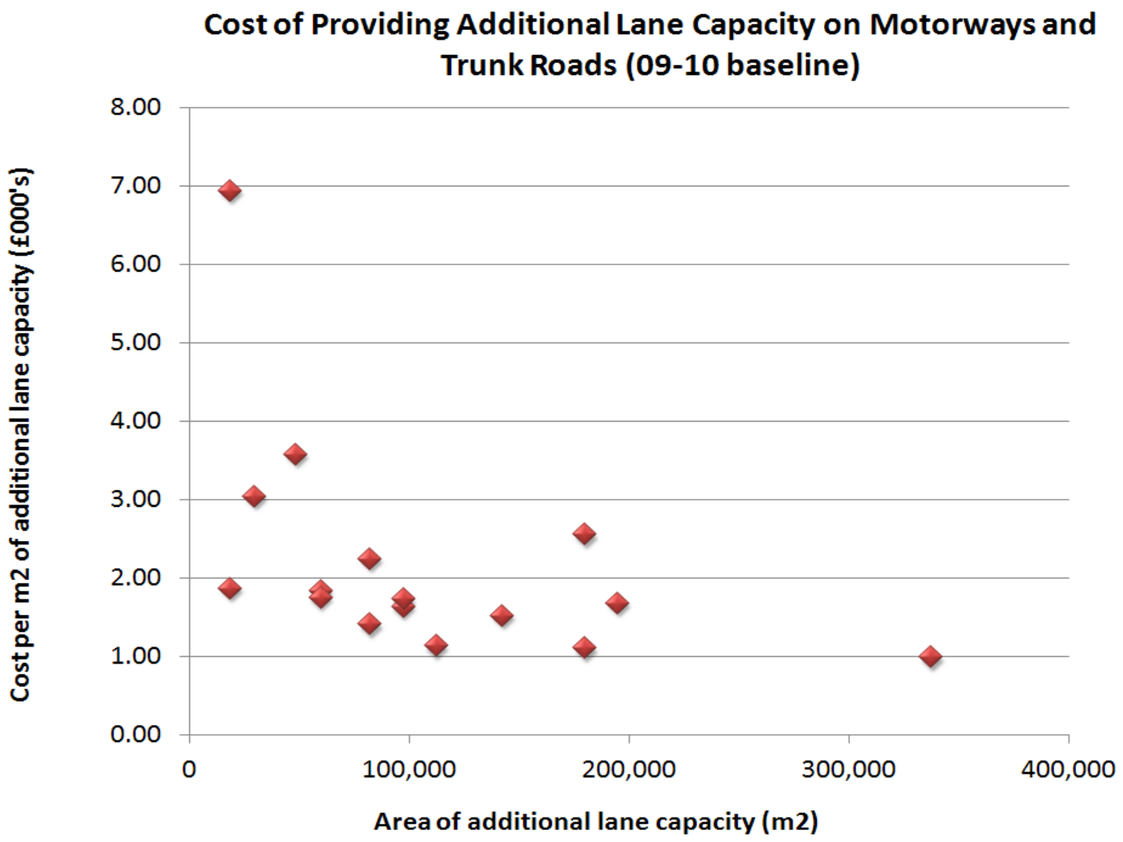
Range T: 50% ✓ (**trend:** Range T 19% more than baseline)

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;
- Average unit rate reduced due to size of Greatham North

Chart 13: Construction Cost Benchmarks for DfT/Highways England: 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 8 and Table 18 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% ✓

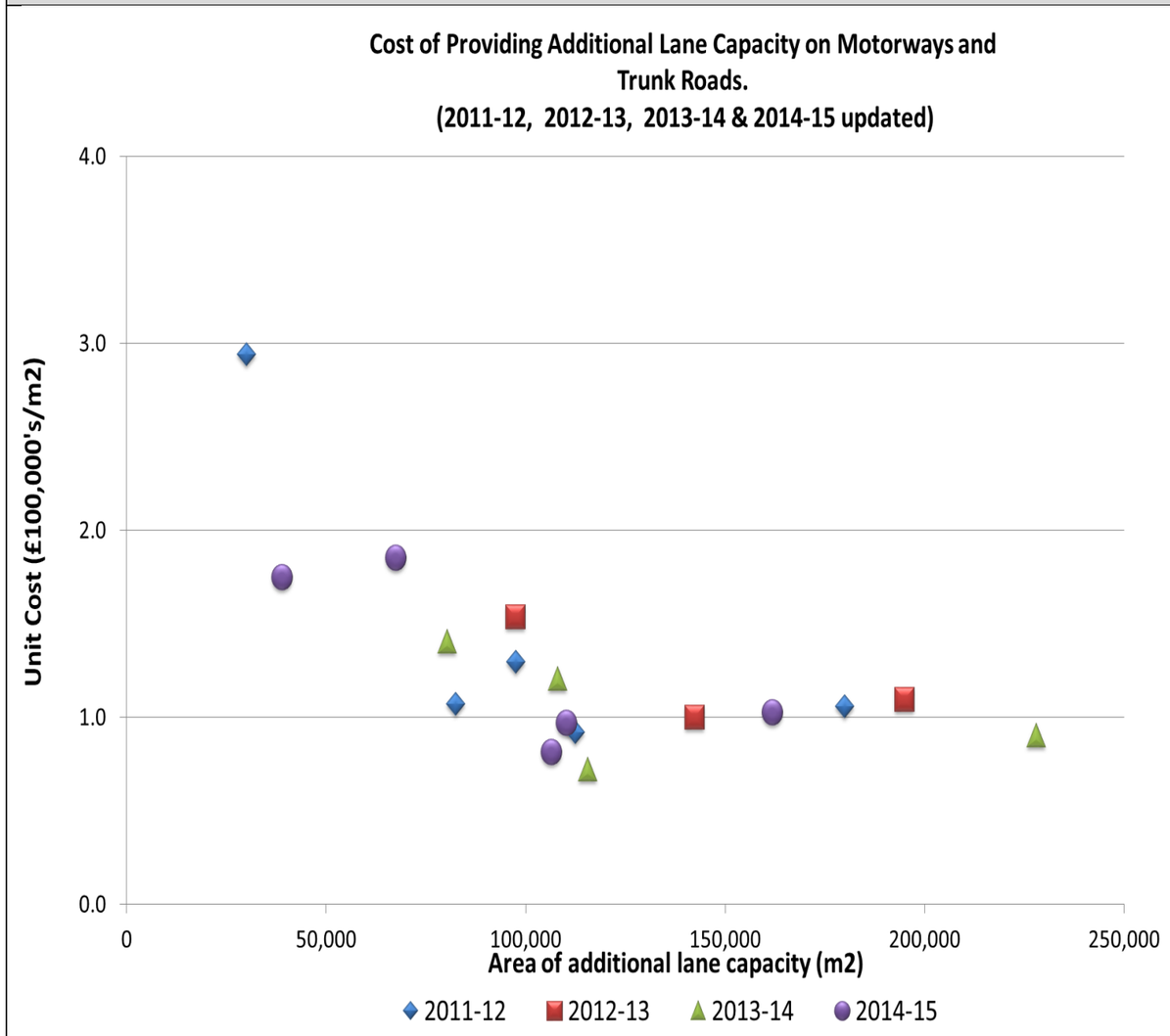
Managed Motorways**: P90:** £2.1K/m^2 ; **Av (P50):** £1.7K/m^2 ; **P10:** £1.3K/m^2

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 14: Construction Cost Benchmarks for DfT/Highways England: Trunk Roads and Managed Motorways (2014/15)



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 8 and Table 18 for more details.

2014/15 data: Averages and P10/P90 thresholds:

Trunk Road Improvement**: P90:** £2.0K/m^2 ; **Av (P50):** £1.8K/m^2 ; **P10:** £1.6K/m^2

Range T (equivalent): 11% (**trend:** Range T 4% less than baseline)

Range T+B (equivalent): 22%✓ (**trend:** Range T+B 13% less than baseline)

Managed Motorways**: P90:** £1.1K/m^2; **Av (P50):** £0.9K/m^2; **P10:** £0.8K/m^2

Range T (equivalent): 22% (trend: Range T 2% less than baseline)

Note: Data given in 2009/10 constant prices

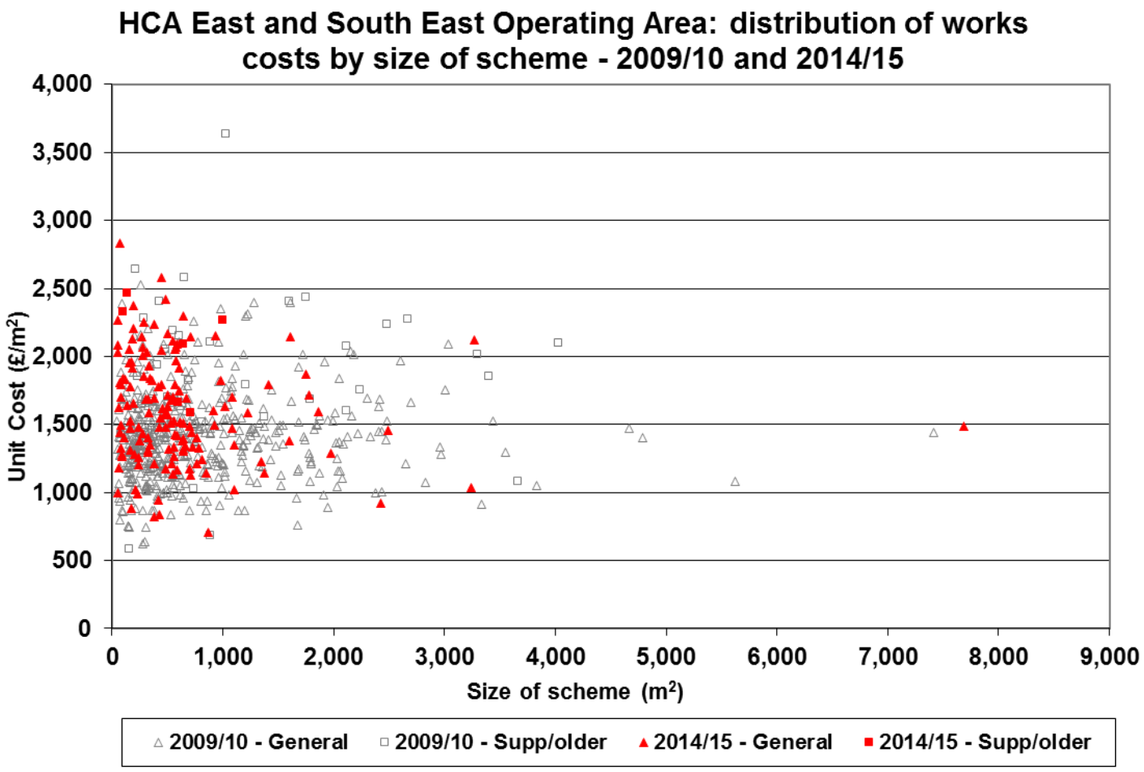
Chart specific commentary:

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 in no. All Lane Running, 2 in no. Junction Improvement schemes these are complex projects

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



What this cost data represents: New Build cost data for 2009/10 (baseline) and 2014/15 for houses and flats of the following project types: Housing for rent, for Low Cost Home Ownership (LCHO), for General Needs Housing (rent) and For Supported and older persons housing (rent).

Corresponding cost data tables: Refer to Tables 19 and 36 for more details.

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

For Rent: **80th:** £1678/m²; **Av:** £1465/m²; **20th:** £1156/m²

Range T: 14.6%

Range T+B: 35.6%✓

For LCHO: **80th:** £1602/m²; **Av:** £1475/m²; **20th:** £1079/m²

Range T: 8.6%

Range T+B: 35.5%✓

For General Needs (rent): **80th:** £1641/m²; **Av:** £1404/m²; **20th:** £1150/m²

Range T: 16.9% ✓

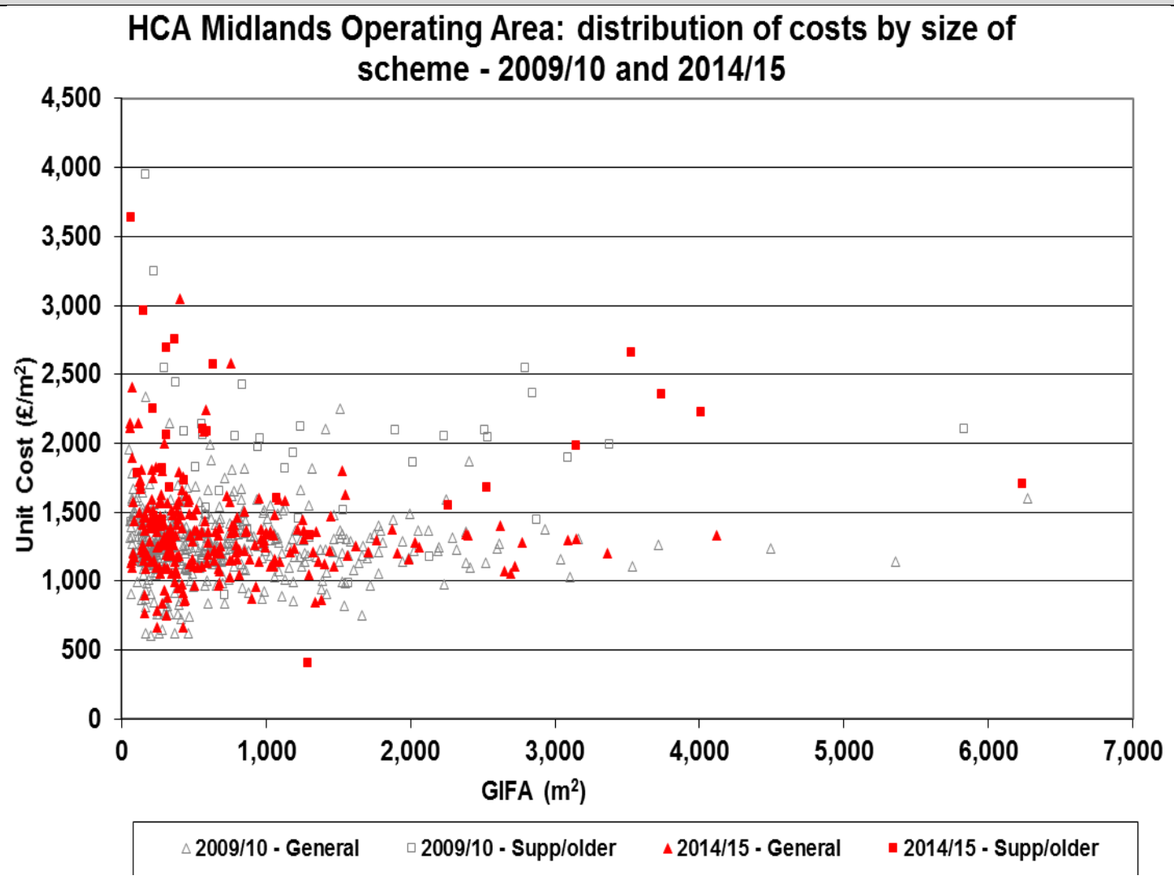
For Rent (Supported and older person housing): **80th:** £2732/m²; **Av:** £2166/m²; **20th:** £1777/m²

Range T: 9.5%

Range T+B: 27.5%✓

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 (Midlands HCA Operating Area)



What this cost data represents: New Build cost data for 2009/10 (baseline) and 2014/15 for houses and flats of the following project types: Housing for Rent, For Low Cost Home Ownership (LCHO), for General Needs Housing (rent) and for Supported and Older Persons housing (rent).

Corresponding cost data tables: Refer to Tables 19 and 37 for more details.

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

For Rent: **80th:** £1489/m²; **Av:** £1371/m²; **20th:** £1105/m²

Range T: 8.6%

Range T+B: 28%✓

For LCHO: **80th:** £1450/m²; **Av:** £1323/m²; **20th:** £1137/m²

Range T: 9.6%

Range T+B: 23.7%✓

For General Needs (rent): **80th:** £1433/m²; **Av:** £1272/m²; **20th:** £1096/m²

Range T: 12.7%

Range T+B: 26.5%✓

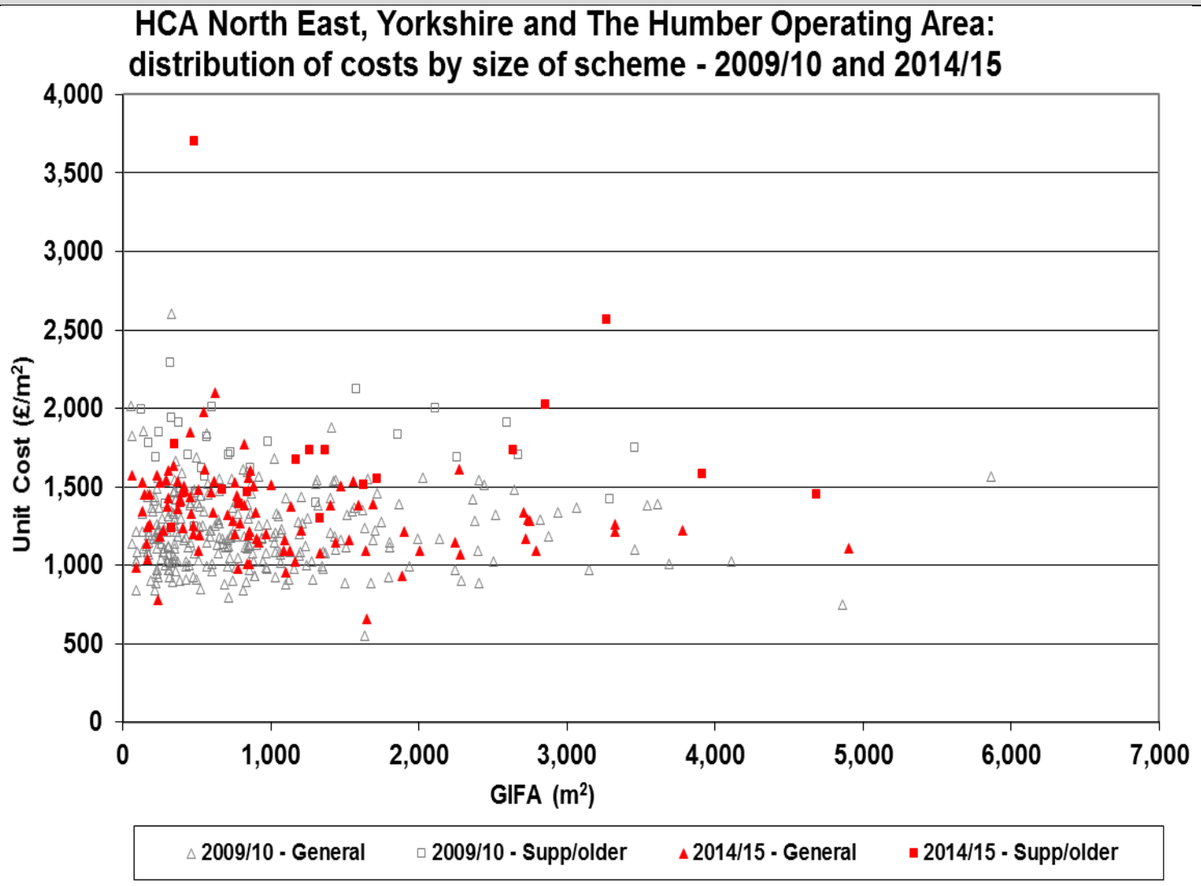
For Supported and Older Persons Housing (rent): **80th:** £2142/m²; **Av:** £1895/m²; **20th:** £1375/m²

Range T: 13%

Range T+B: 40.5%✓

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 17: 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: New Build cost data for 2009/10 (baseline) and 2014/15 for houses and flats of the following project types: Housing for rent, for Low Cost Home Ownership (LCHO), for General Needs (rent) and for Supported and Older Persons housing (rent).

Corresponding cost data tables: Refer to Tables 19 and 38 for more details.

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

For Rent: **80th:** £1478/m²; **Av:** £1293/m²; **20th:** £1034/m²

Range T: 14.3%

Range T+B: 34.3%✓

For LCHO: **80th:** £1433/m²; **Av:** £1177/m²; **20th:** £973/m²

Range T: 21.8% ✓

For General Needs (rent): **80th:** £1394/m²; **Av:** £1213/m²; **20th:** £1020/m²

Range T: 14.9% ✓

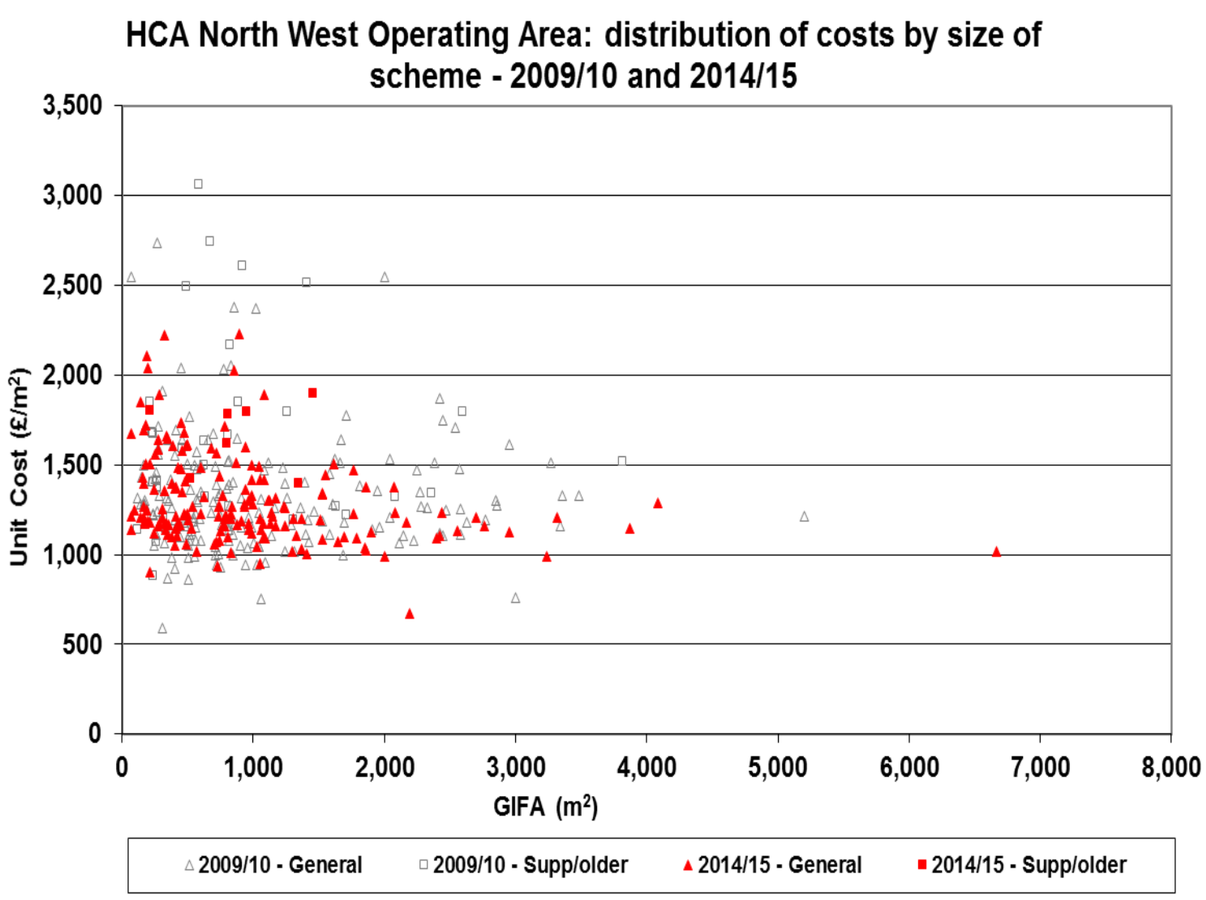
For Supported and Older Persons Housing (rent): **80th:** £2003/m²; **Av:** £1833/m²; **20th:** £1569/m²

Range T: 9.3%

Range T+B: 23.7% ✓

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



What this cost data represents: New build cost data for 2009/10 (baseline) and 2014/15 for houses and flats of the following project types: Housing for Rent, for Low Cost Home Ownership (LCHO), for General Needs (rent) and for Supported and Older Persons Housing (rent).

Corresponding cost data tables: Refer to Tables 19 and 39 for more details.

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

For Rent: **80th:** £1590/m²; **Av:** £1351/m²; **20th:** £1112/m²

Range T: 17.7% ✓

For LCHO: **80th:** £1488/m²; **Av:** £1370/m²; **20th:** £1054/m²

Range T: 8.6%

Range T+B: 31.7%✓

For General Needs (rent): **80th:** £1506/m²; **Av:** £1292/m²; **20th:** £1105/m²

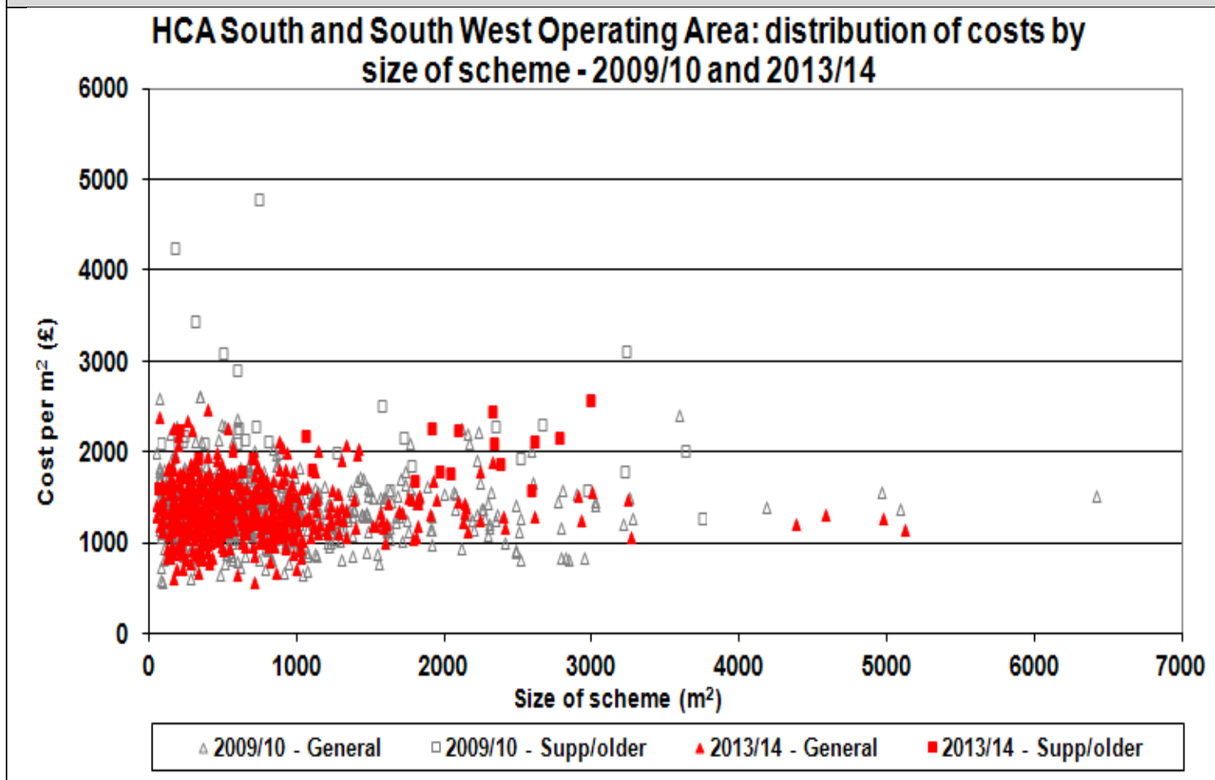
Range T: 16.6% ✓

For Supported and Older Persons Housing (rent): **80th:** £2169/m²; **Av:** £1678/m²; **20th:** £1269/m²

Range T: 29.3% ✓

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 DCLG/Homes and Communities Agency: New Build (South and South West HCA Operating Area)



What this cost data represents: New build cost data for 2009/10 (baseline) and 2014/15 for houses and flats of the following project types: Housing for Rent, for Low Cost Home Ownership (LCHO), For General Needs (rent) and for Supported and Older Persons Housing (rent).

Corresponding cost data tables: Refer to Tables 19 and 40 for more details.

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

For Rent: **80th:** £1616/m²; **Av:** £1454/m²; **20th:** £1166/m²;

Range T: 11.1%

Range T+B: 30.9%✓

For LCHO: **80th:** £1541/m²; **Av:** £1368/m²; **20th:** £1132/m²;

Range T: 12.6%

Range T+B: 29.9%✓

For General Needs (rent): **80th:** £1564/m²; **Av:** £1364/m²; **20th:** £1158/m²;

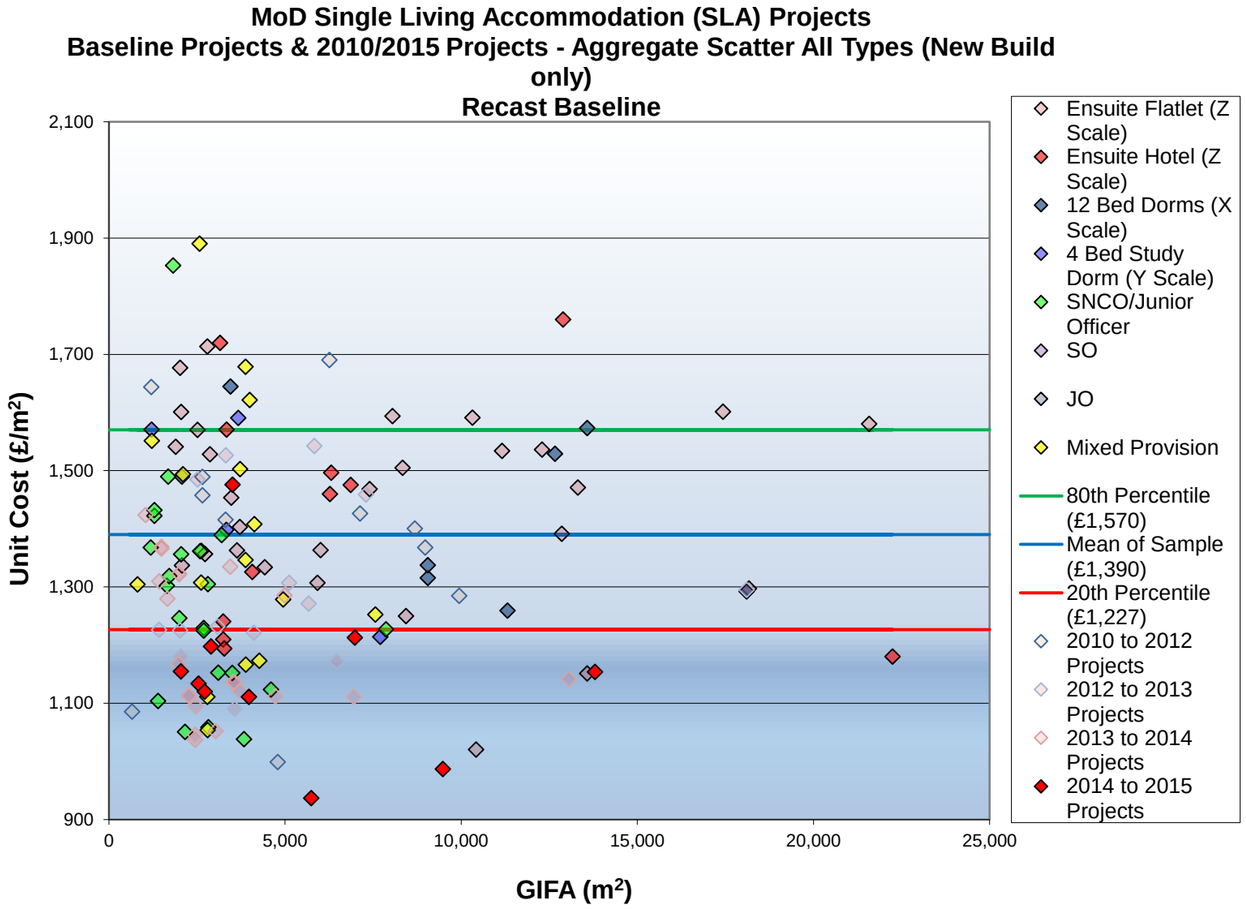
Range T: 14.7% ✓

For Supported and Older Persons Housing (rent): **80th:** £2512/m²; **Av:** £2159/m²; **20th:** £1694/m²;

Range T: 16.4% ✓

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 20: 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 10 and 20 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%

2014/15 data: Averages and 20th/80th percentile thresholds:

80th: £1198/m²; **Av:** £1124/m²; **20th:** £978/m²

Range T: 7%

Range T+B: 20% ✓

Range B: 13%

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.

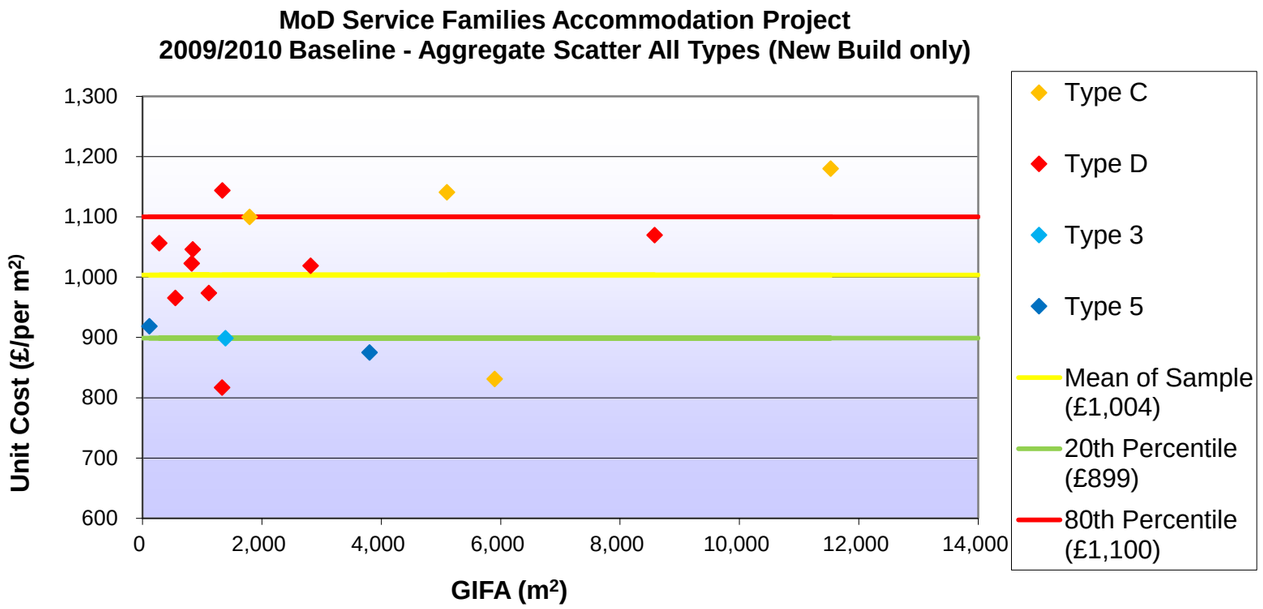
Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have now been excluded for the purpose of this exercise. Going forward, data uploaded to the BCIS database – whilst including the overall value of external works – will 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 20 for commentary on revisions to the Baseline.

.

Chart 21: 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 11 and 20 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%

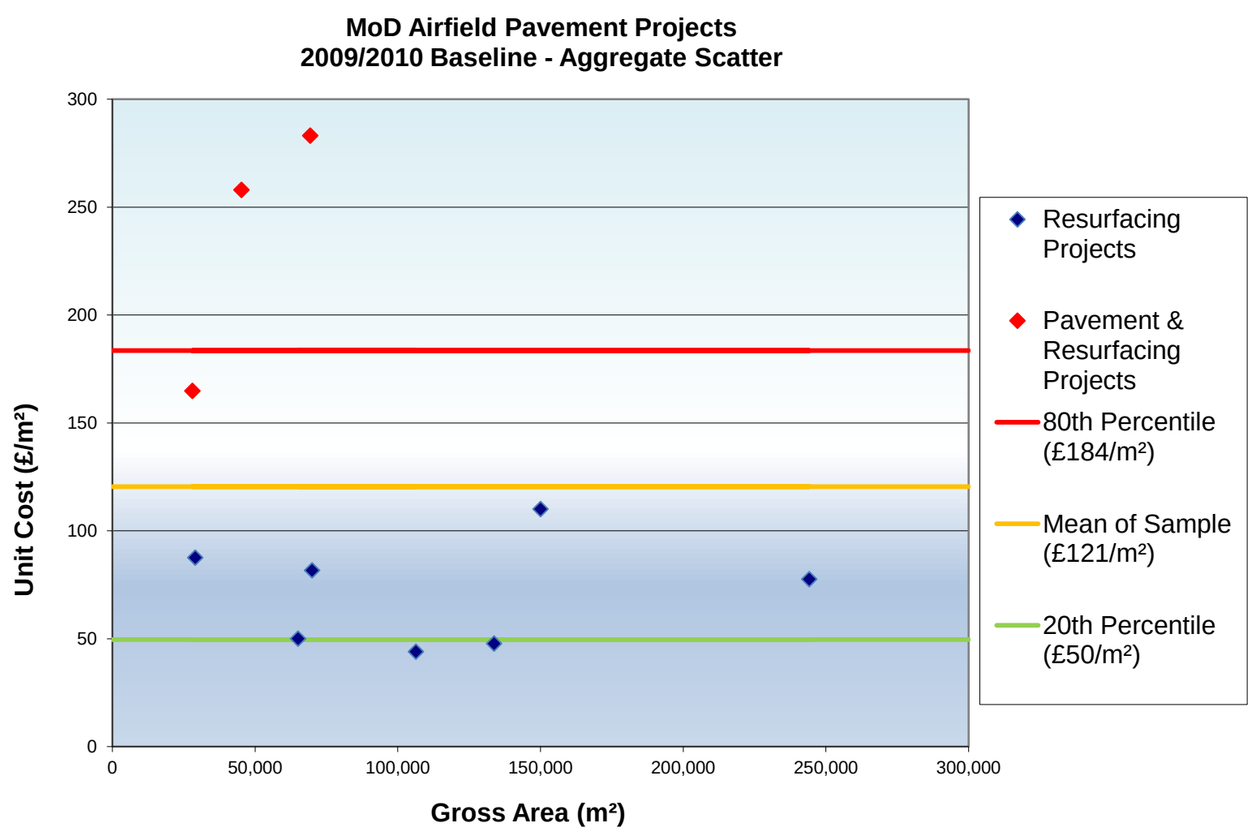
Range T+B: 20% ✓

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 22: 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 Benchmarks, 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 12 and 20 for more details.

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

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

Range T: 23% ✓

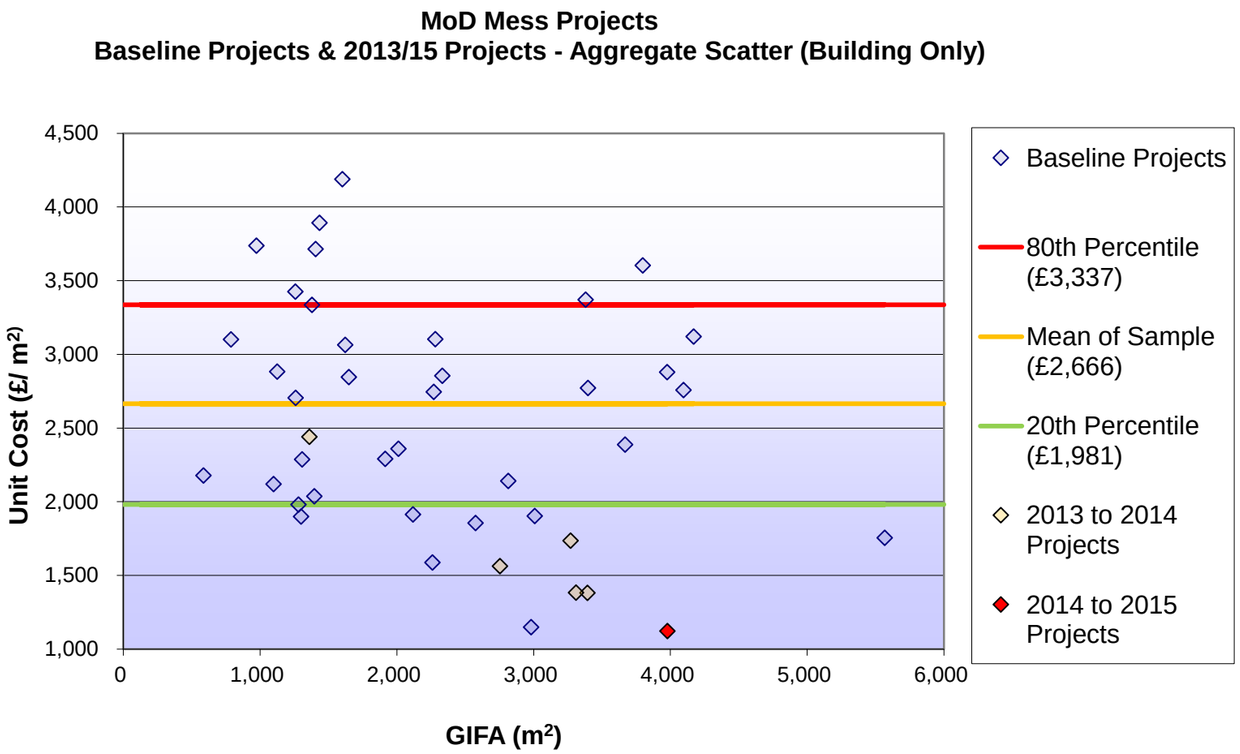
Pavement and Resurfacing **80th:** £273/m^2; **Av:** £235/m^2; **20th:** £202/m^2

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 23: Construction Cost Benchmarks for Ministry of Defence: Mess Facilities



What this cost data represents: Normalised new build cost data for all Mess projects let since March 2014.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £3337/m^2; **Av:** £2666/m^2; **20th:** £1981/m^2

Range T: 25% ✓

2014/15 data: Averages and 20th/80th percentile thresholds:

Single Project: £1124/m^2

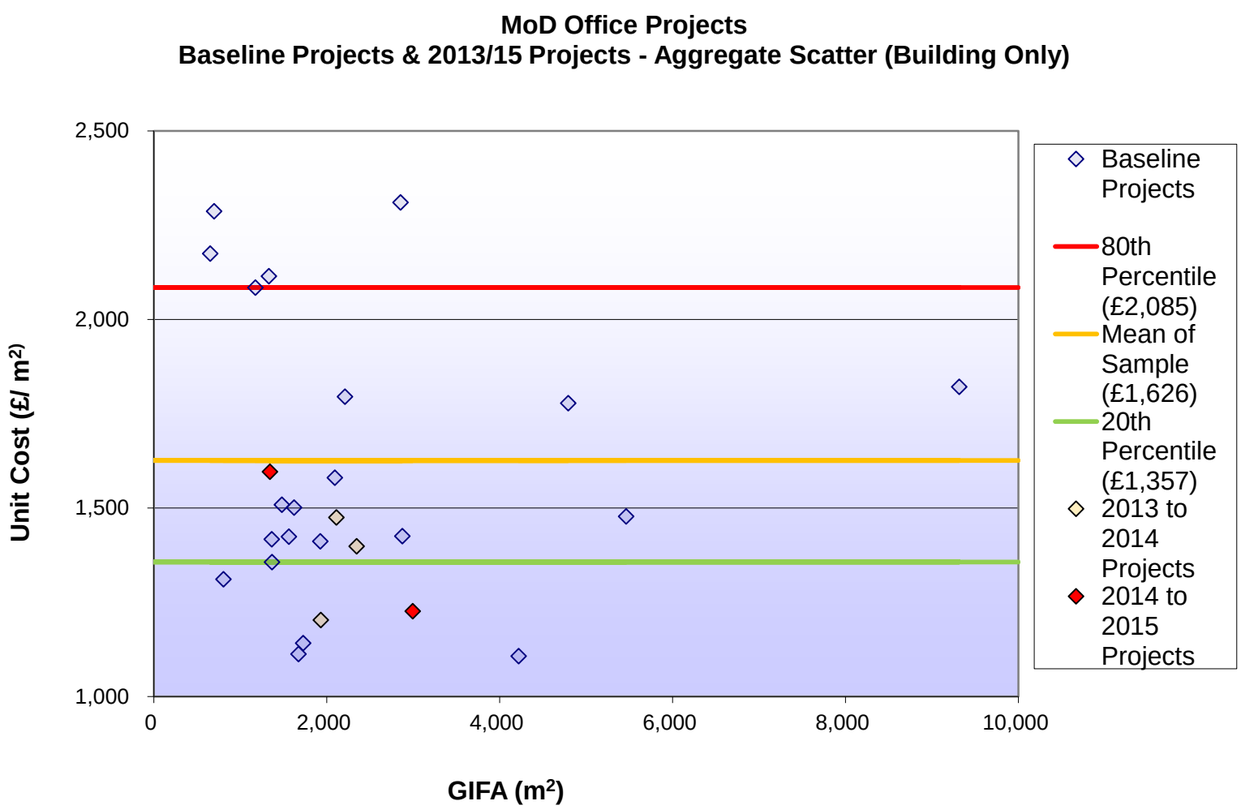
Chart specific commentary:

The costs of the various projects tend to scatter on the basis that the cost of the project is influenced by the size of the project. Accordingly, the greatest opportunity for cost reduction is represented by the larger projects.

The 2013/14 and 2014/15 project costs (£/m^2) are all considerably lower than the 2009/10 baseline and are generally concentrated within a narrower and lower cost range compared with the 2009/10 baseline. The costs are reflective of all but one of the projects being part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 24: Construction Cost Benchmarks for Ministry of Defence: Office Projects



What this cost data represents: Normalised new build cost data for all Office projects let since October 2004.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £2085/m²; **Av:** £1626/m²; **20th:** £1357/m²

Range T: 28% ✓

2014/15 data: Averages and 20th/80th percentile thresholds:

80th: £1523/m²; **Av:** £1412/m²; **20th:** £1301/m²

Range T: 7.9%

Range T+B: 15.7%✓

Range B: 7.9%

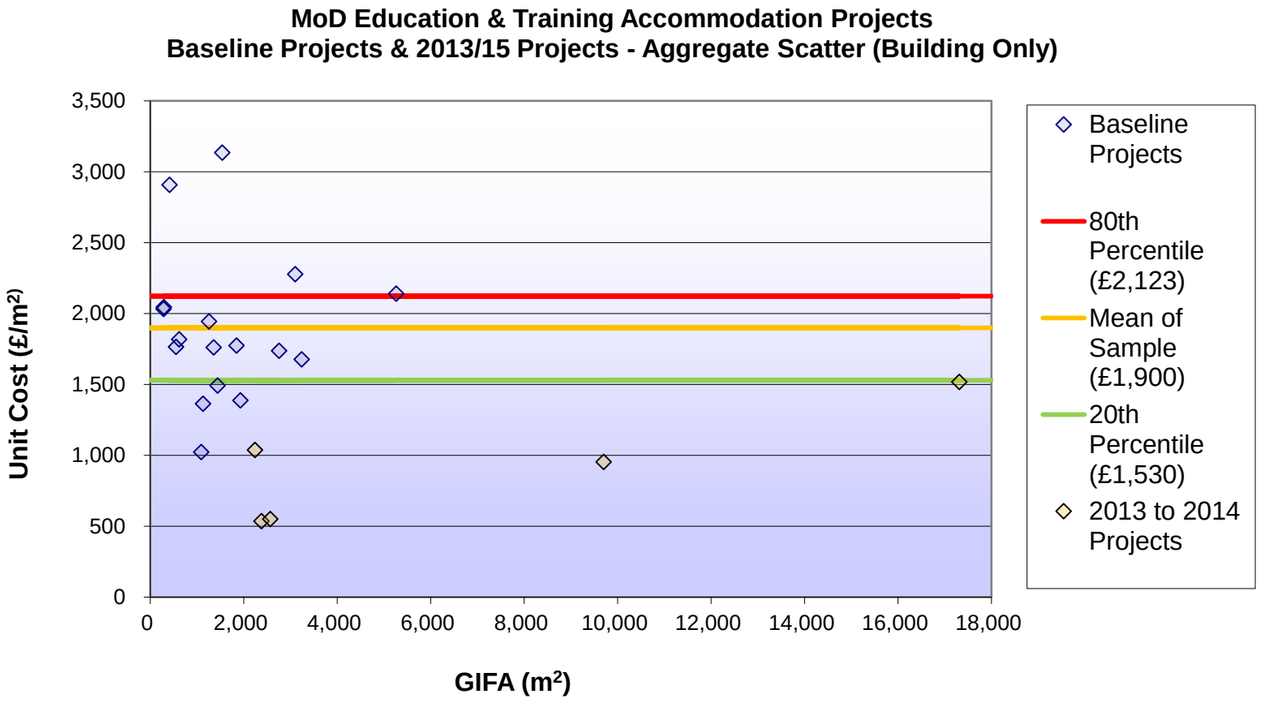
Chart specific commentary:

The costs of the projects tend to scatter and cluster in slightly different ways, which is generally down to the type and complexity of the project. However, the trend is that they scatter on the basis that the cost of the project is influenced by the size of the project.

The 2013/14 and 2014/15 project costs (£/m²) are all lower than the 2009/10 baseline and are generally concentrated within a narrower and lower cost range compared with the 2009/10 baseline. The costs are reflective of all but one of the projects being part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 25: Construction Cost Benchmarks for Ministry of Defence: Training Projects



What this cost data represents: Normalised new build cost data for all Training projects let since February 2004.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £2123/m²; **Av:** £1900/m²; **20th:** £1530/m²

Range T: 12%

Range T+B: 31% ✓

Range B: 19%

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

80th: £1520/m²; **Av:** £1047/m²; **20th:** £552/m²

Range T: 45% ✓

2014/15 data: Averages and 20th/80th percentile thresholds:

Not applicable

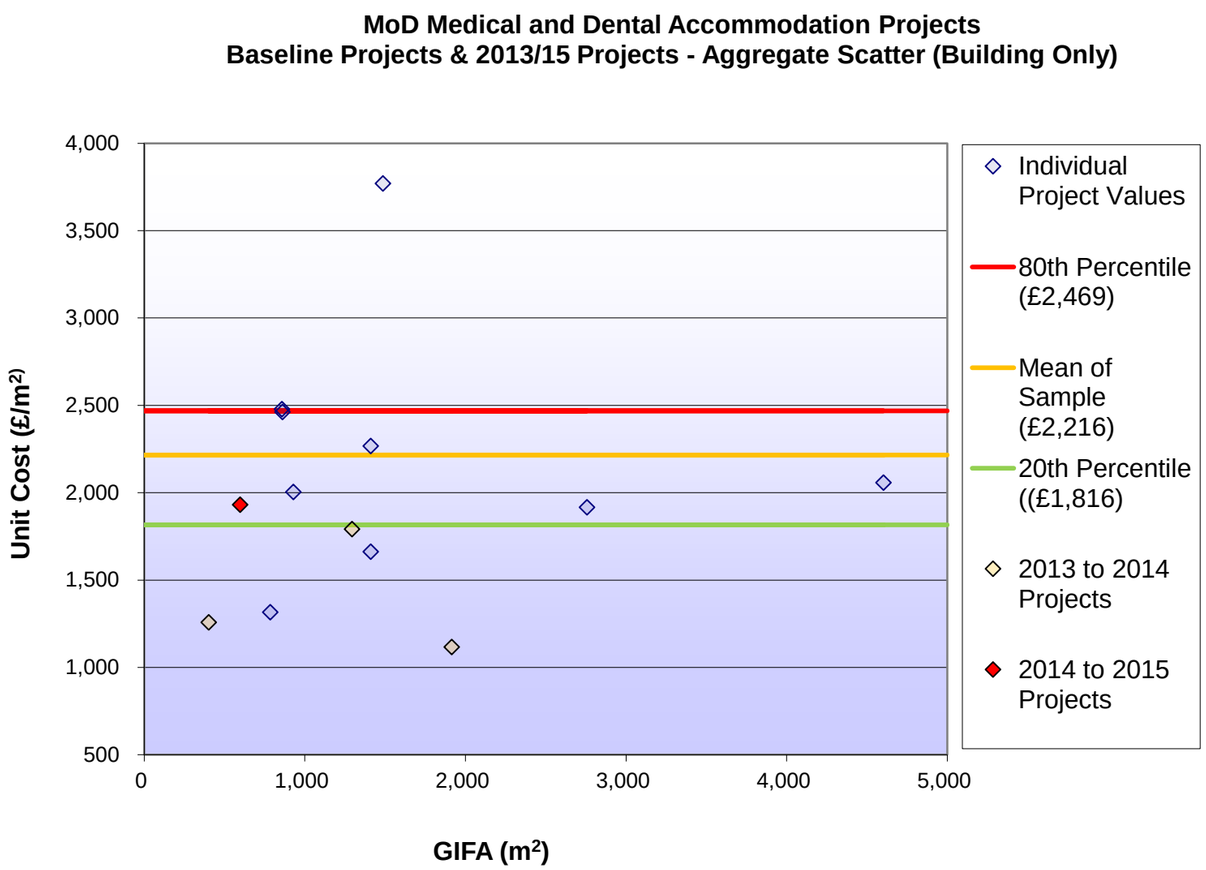
Chart specific commentary:

The costs of the projects tend to scatter and cluster in slightly different ways with size being the primary consideration. The range of Project costs (£/m²) tend to be influenced dependant on the complexity/type of Training facility provided.

The 2013/14 project costs (£/m²) are all significantly lower than the 2009/10 baseline and this is reflected in the type of training building provided and also from the projects forming part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 26: Construction Cost Benchmarks for Ministry of Defence: Medical/Dental Projects



What this cost data represents: Normalised new build cost data for all Medical/Dental projects let since April 2006.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £2469/m²; **Av:** £2216/m²; **20th:** £1816/m²

Range T: 11%

Range T+B: 29%✓

Range B: 18%

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

80th: £1579/m²; **Av:** £1389/m²; **20th:** £1174/m²

Range T: 14%

Range T+B: 29%✓

Range B: 15%

2014/15 data: Averages and 20th/80th percentile thresholds:

Single project: £1932/m²

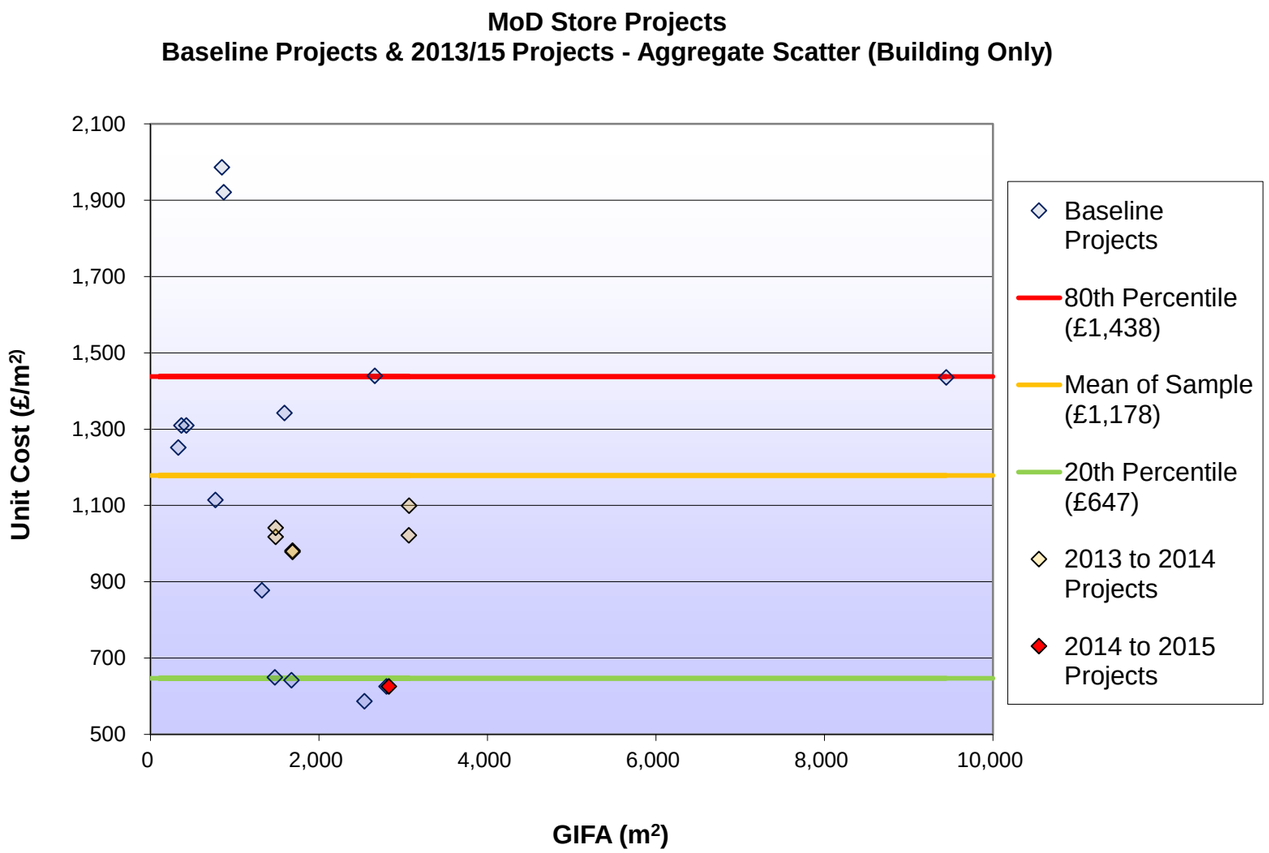
Chart specific commentary:

The costs of the various projects tend to scatter and cluster in slightly different ways although the overall trend is that the cost of the project is influenced by the size of the project and is also generally down to the type of facility provided.

The 2013/14 project costs (£/m²) are all lower than the 2009/10 baseline and are reflective of the projects being part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 27: Construction Cost Benchmarks for Ministry of Defence: Stores Projects



What this cost data represents: Normalised new build cost data for all Stores projects let since August 2006.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £1438/m²; **Av:** £1178/m²; **20th:** £647/m²

Range T: 22% ✓

Range B: 45%

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

80th: £1038/m²; **Av:** £967/m²; **20th:** £979/m²

Range T: 7%

Range T+B: 6%

Range B: -1%

2014/15 data: Averages and 20th/80th percentile thresholds:

No data

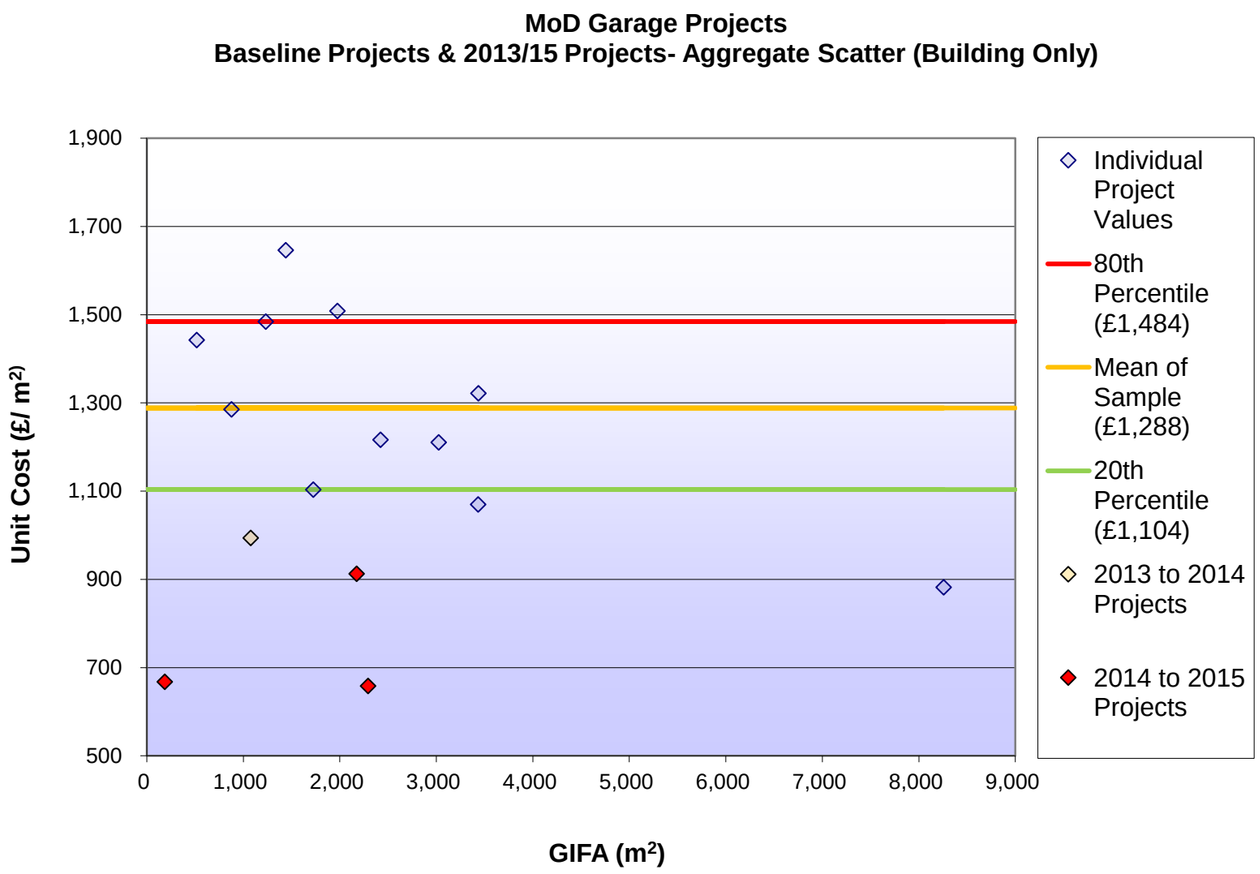
Chart specific commentary:

The costs of the various projects tend to scatter and cluster in slightly different ways although the overall trend is that the cost of the project is influenced by the size of the project and is also generally down to the type of store being provided.

The 2013/14 and 2014/15 project costs (£/m²) are all lower than the 2009/10 baseline and are reflective of the projects being part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 28: Construction Cost Benchmarks for Ministry of Defence: Garages Projects



What this cost data represents: Normalised new build cost data for all Garage projects let since April 2004.

Benchmarks are 'Building Only' – excluding external works provision and design fees. This methodology corresponds with that used in calculating and utilising the SLA benchmarks.

Corresponding cost data tables: Refer to Tables 13 and 20 for more details.

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

80th: £1484/m^2; **Av:** £1288/m^2; **20th:** £1104/m^2

Range T: 15% ✓

Range B: 14%

2014/15 data: Averages and 20th/80th percentile thresholds:

80th: £815/m^2; **Av:** £746/m^2; **20th:** £662/m^2

Range T: 9%

Range T+B: 21% ✓

Range B: 11%

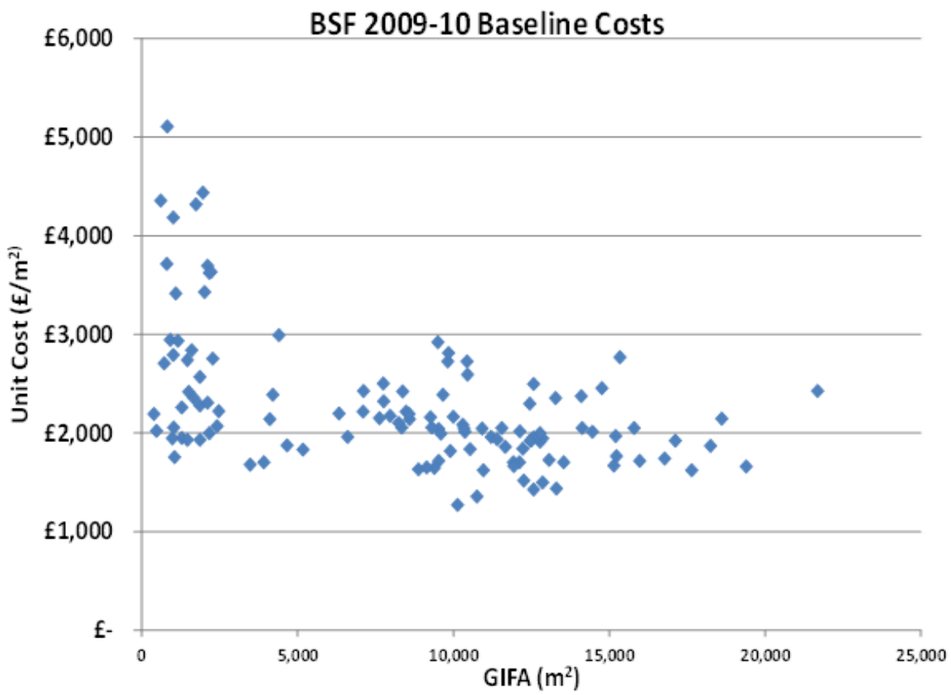
Chart specific commentary:

The costs of the projects tend to scatter and cluster in an overall trend whereby the cost of the project is influenced by the size of the project.

The 2013/14 and 2014/15 project costs (£/m^2) are all lower than the 2009/10 baseline and are reflective of the projects being part of much larger projects that have been competitively bid.

Another significant influence on the observed ranges of cost is the extent of external works provision within each project. These costs have been excluded for the purpose of this exercise. This enables closer scrutiny of comparable building costs and opens up comparison at an elemental level.

Chart 29: 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 15 and 20 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% ✓

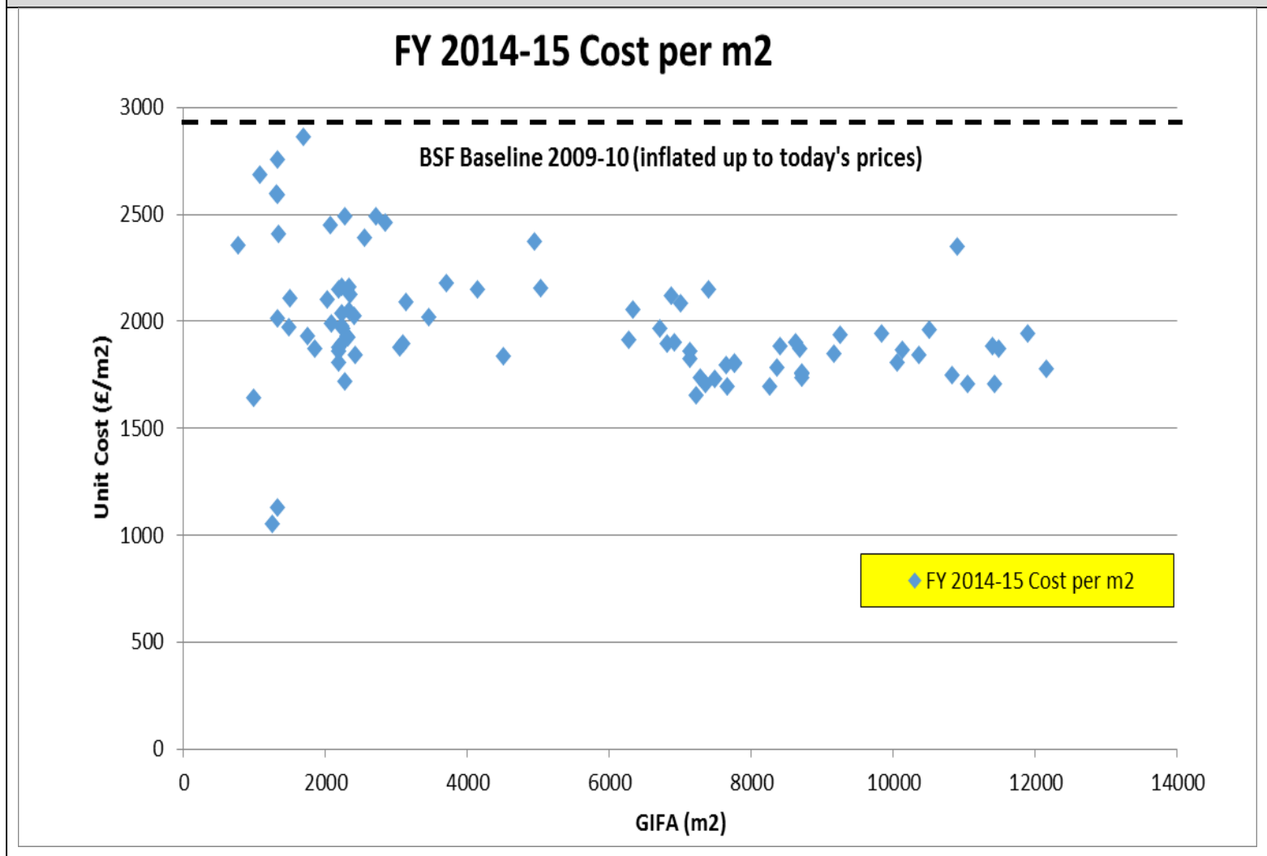
GIFA 14-16,000m²: **80th:** £2299/m²; **Av:** £2075/m²; **20th:** £1845/m²

Range T: 11%

Range T+B: 22% ✓

Chart 29: Construction Cost Benchmarks for DfE/Education Funding Agency: Secondary Schools (2009/10 Baseline)	
	GIFA 16-18,000m^2: **80th:** £2180/m^2; **Av:** £1962/m^2; **20th:** £1690/m^2 Range T: 11% Range T+B: 25% ✓ GIFA 18-20,000m^2: **80th:** £2105/m^2; **Av:** £1938/m^2; **20th:** £1786/m^2 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 30: Construction Cost Benchmarks for DfE/Education Funding Agency: Secondary Schools (2014/15)



What this cost data represents: Normalised new build cost data for all schools procured and/or built in FY 2014-15 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 to enable a like for like comparison.

Averages and 20th/80th percentile thresholds:

GIFA 0-750m²: Insufficient data for this GFA banding

GIFA 750-1500m²: **80th:** £ 2,032.21 /m²; **Av:** £1,927.88 /m²; **20th:**£1,799.28/m²

Range T: 5%

Range T+B: 12%

GIFA 1500-3000m²: **80th:** £1,860.65 /m²; **Av:** £ 1,725.23 /m²; **20th:** £1,585.10 /m²

Range T: 8%

Range T+B: 16%✓

GIFA 3000-5000m²: **80th:** £1,788.61 /m²; **Av:** £1,699.30 /m²; **20th:** £1,609.27/m²

Range T: 5%

Range T+B: 10.5%

GIFA 5000-10,000m²: **80th:** £1,736.68 /m²; **Av:**£1,627.36 m²; **20th:** £1,488.44/m²

Range T: 6.7%

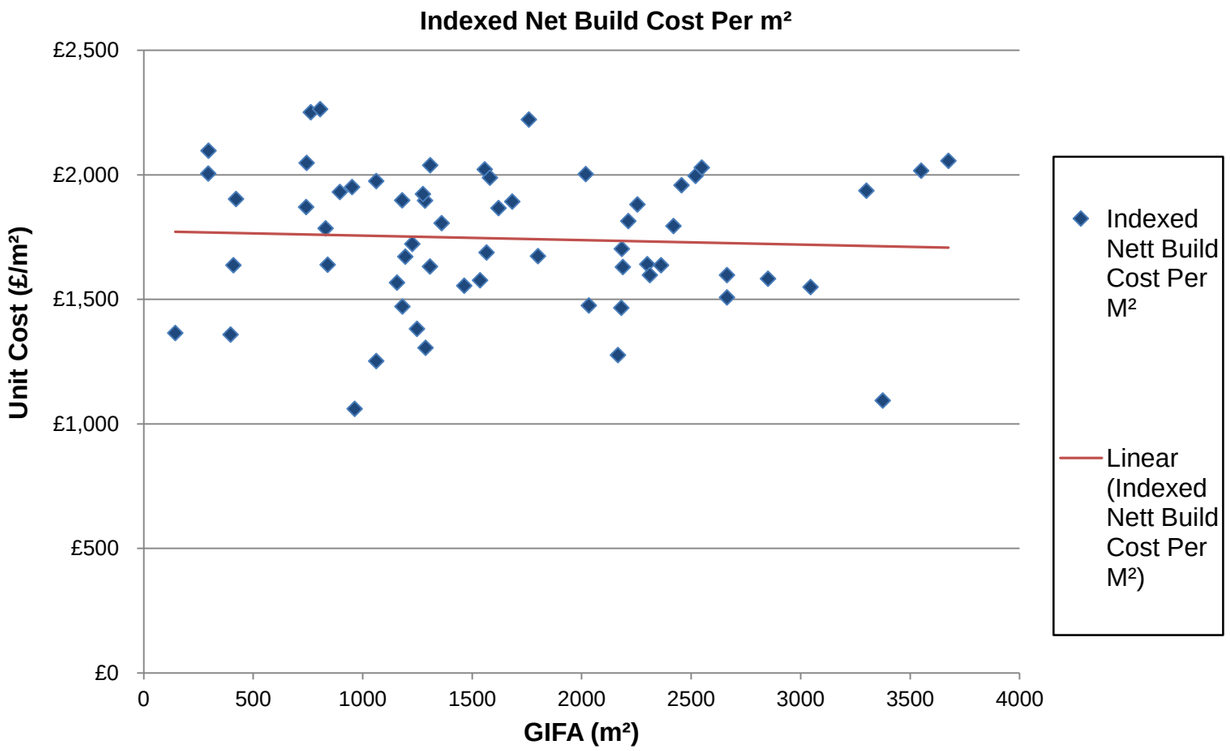
Range T+B: 15%✓

GIFA 10,000-15,000m²: **80th:** £1,752.51 /m²; **Av:**£1,428.91 m²; **20th:** £1,101.50/m²

Range T: 22.7% ✓

For Averages and percentiles see Table 15 where they have been updated using 2014/15 data

Chart 31: 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 per m²



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 24 for more details.

Averages and 20th/80th percentile thresholds:

GIFA 0-750m²: 80th: £2,030/m²; Av: £1,785/m²; 20th: £1,474/m²

Range T: 13.7%

Range T+B: 31% ✓

GIFA 750-1500m²: 80th: £1,947/m²; Av: £1,726/m²; 20th: £1,488/m²

Range T: 12.8%

Range T+B: 26.6% ✓

GIFA 1500-2250m²: 80th: £1,991/m²; Av: £1,753/m²; 20th: £1556/m²

Range T: 13.6%

Range T+B: 24.8% ✓

GIFA 2250-3000m²: 80th: £1,958/m²; Av: £1,747/m²; 20th: £1,597/m²

Range T: 12.1%

Range T+B: 20.7% ✓

GIFA 3000-3750m²: £2,024/m²; Av: £1,730/m²; 20th: £1,458/m²

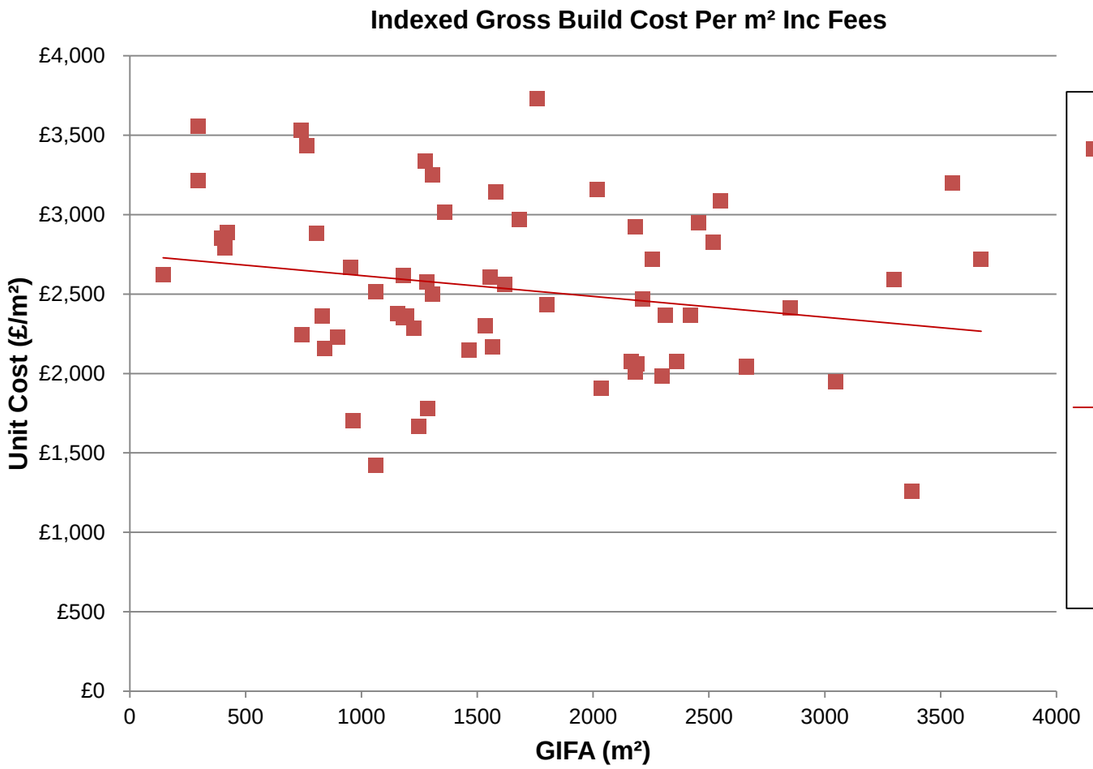
Range T: 17%

Chart specific commentary: 52% of projects in the whole sample for primary schools are new build (61 projects), with a combined capital value of £249 million.

General observations show that the majority of Local Authorities build new schemes which are in the 750 - 1,500m² GIFA band, with a significant number also being built in the 1,500 - 2,250m² band.

Projects in the 0 - 750m² and 750 - 1,500m² GIFA bands are mostly extensions to existing schools. This accounts for the lower costs per pupil place figures as these projects have a reduced infrastructure provision.

Chart 32: 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 m²



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 24 for more details.

Averages and 20th/80th percentile thresholds:

GIFA 0-750m²: 80th: £3,406/m²; Av: £2,962/m²; 20th: £2688/m²

Range T: 15% ✓

GIFA 750-1500m²: 80th: £2839/m²; Av: £2,438/m²; 20th: £2,147/m²

Range T: 16.4%✓

GIFA 1500-2250m²: 80th: £3,004/m²; Av: £2,566/m²; 20th: £2,070/m²

Range T: 17.1%✓

GIFA 2250-3000m²: 80th: £2,826/m²; Av: £2,443/m²; 20th: £2,043/m²

Range T: 15.7%✓

GIFA 3000-3750m²: 80th: £2,813/m²; Av: £2,343/m²; 20th: £1,809/m²

Range T: 20%✓

Chart specific commentary: 48% of projects in the whole sample for primary schools are refurbished/partial new build (56 projects), with a combined capital value of £175 million.

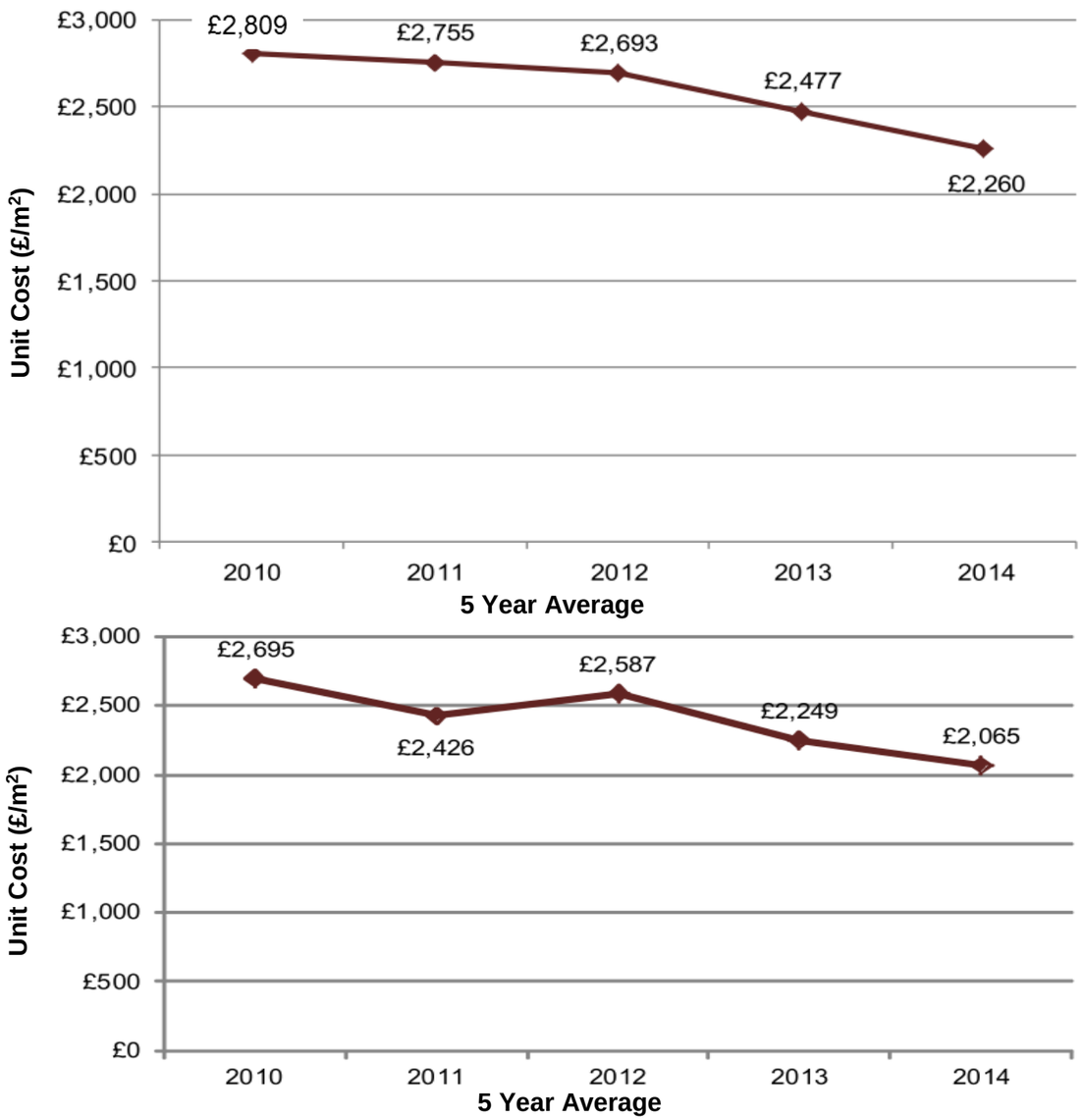
General observations show that the majority of refurbishment/partial new build projects are in the 0 - 750m² GIFA band.

The 2,250 - 3,000m² and 3,000 - 3,750m² GIFA bands include schemes which feature a greater proportion of new build elements. This accounts for the higher costs per pupil place figures as these projects have a higher average cost for infrastructure provision.

Chart 33: Construction Cost Benchmarks provided direct by Local Authorities (Compiled by Hampshire County Council and East Riding of Yorkshire Council):

Graph 1 - Primary Schools New Build Cost Trajectory – Gross Costs (£/m²)

Graph 2 - Primary Schools New Build Cost Trajectory – Whole Sample Gross Costs (£/m²)



What this cost data represents: The study has shown the following observations relating to annual cost projections since 2010. The graph is based on 61 new build primary projects.

Year Band	Number of Projects
2010	7
2011	6
2012	9
2013	27
2014	12

Over the last five years, since 2010, average gross new build costs have fallen 19.5% (with a 16% fall over the last 3 years). This trend provides a five year average gross cost for new build projects of £2,531 per m².

Over the last five years, since 2010, average gross build costs based upon the whole sample, have fallen 23.4% (with a 20% fall over the last 3 years), based on the 117 projects.

Year Band	Number of Projects
2010	13
2011	8
2012	24
2013	50
2014	22

This trend provides a five year average gross cost across the whole sample of £2,345 per m².

Chart specific commentary: The cost trajectory represents a 16% reduction in gross costs since 2012 for new build projects, and a 20% reduction in gross costs across the whole sample.

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[25] and are presented in relation to the 2009/10 baseline for all departments. Wherever available, data from 2010/11 to 2014/15 have also been provided.

The data within the tables in this section should be read in conjunction with the notes provided in Tables 18, 19 and 20 below.

[25] The Highways England 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 England 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 6: Construction Cost Benchmarks for Department of Health (P21 Framework)

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12[26]		2012/13		2013/14		2014/15	
				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
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	2699	2291 3144
	Refurbishment		£/m^2	2090	1140 2520			1939	1359 2268	2028	1459 2525	2210	2153 2307	1840	1693 2097
Mental Health	New Build		£/m^2	2620	2130 3160			n/a	n/a	n/a	n/a	2528	2186 2814	2998	Insuff data
	Refurbishment		£/m^2	2270	1650 2640			1566	Insuff data	n/a	n/a	1231	733 1552	1687	Insuff data
Primary Care / Community	New Build		£/m^2	2120	1880 2330			n/a	n/a	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	n/a	n/a
Other	New Build		£/m^2	1480	450 2200			n/a	n/a	n/a	n/a	1692	1236 2182	n/a	n/a
	Refurbishment		£/m^2	1580	1220 2000			n/a	n/a	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	2798	2320 3187
	Refurbishment		£/m^2	2000	1130 2450			n/a	n/a	2028	1459 2525	1775	790 2342	1782	1363 2143
	All schemes (New Build and Refurbishment)		£/m^2	2680	1700 3160			2390	1484 3321	2465	1837 2885	2241	1849 2633	2320	1773 2886

Chart 34: Department of Health (P21 Framework) New Build

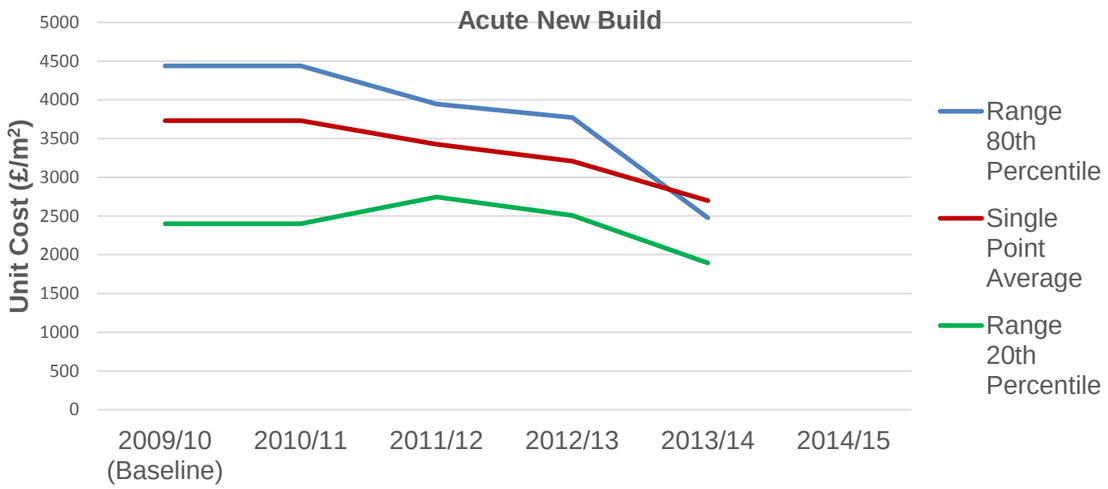
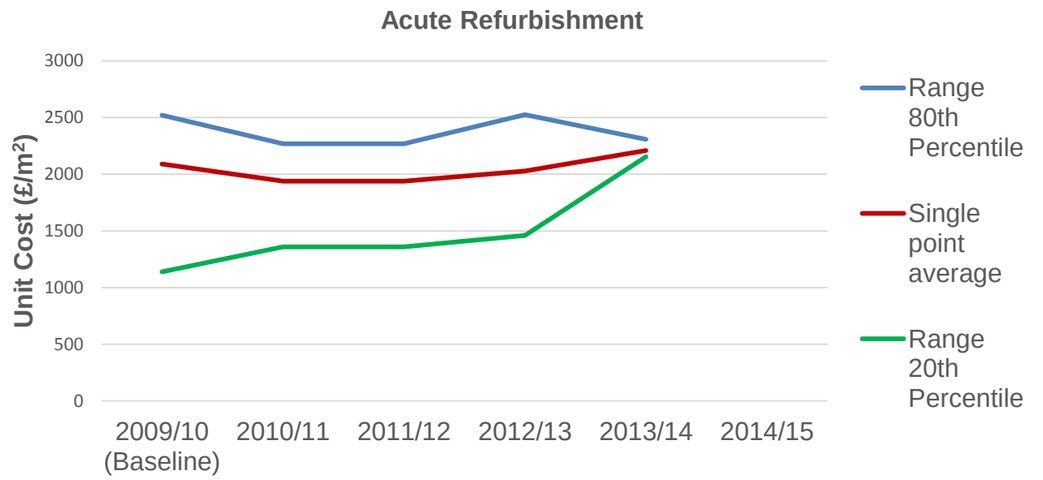


Chart 35: Department of Health (P21 Framework) Acute Refurbishment



[26] In making comparisons with the 2009/10 baseline, 2011/12 and 2014/15 benchmarks should be viewed with caution due to the statistically small sample size.

Table 7: Construction Cost Benchmarks for DEFRA/Environment Agency

Project Types	Project Subtypes	Benchmarks		Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
					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
River Flood Protection and Coastal Defences	N/A	**Type 4:** Unit cost embankments (500 – 5000 m^3 total volume)[27]	5 year rolling average	£/m^3	46	23 66	44	19 65	32	18 39	34	17 46	43	17 62	32	18 42
		Type 4: Unit cost flood walls (less than 2.1 m high)[28]		£/m	2802	1386 3784	2458	1204 2979	2293	1170 2919	2196	1138 2851	2176	1190 2928	1602	1042 2162
		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	1617[29]	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	11.9[30]	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 36: DEFRA/Environment Agency Embankments

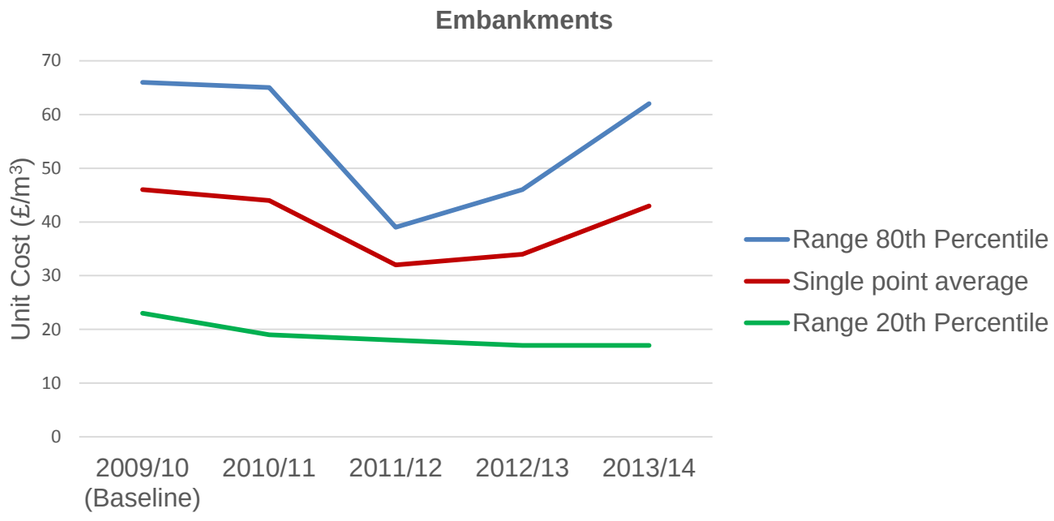
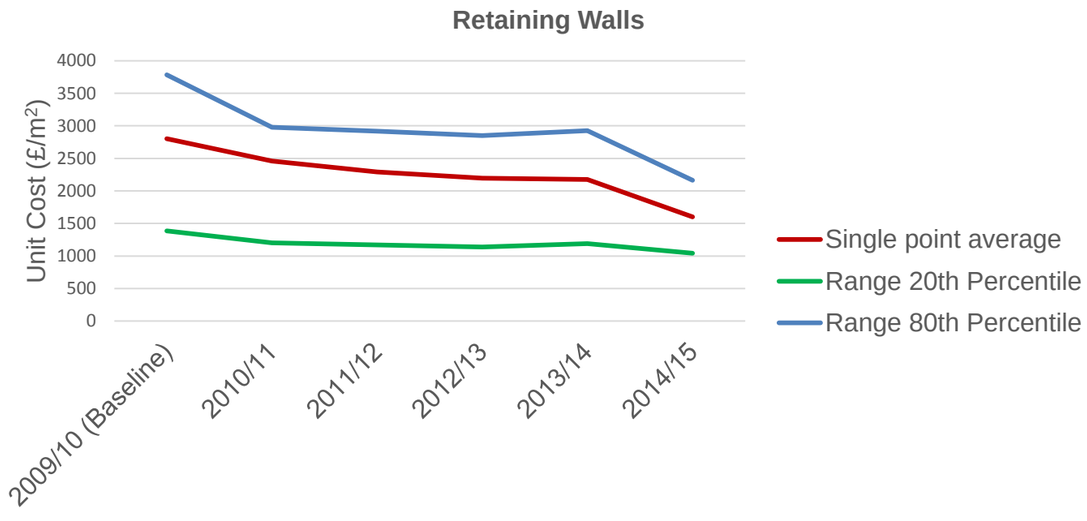


Chart 37: DEFRA/Environment Agency Retaining Walls



27 The narrowing of the 20th - 80th Percentile range of costs over the period wth a downward trend demonstrates improvements in efficient delivery across the programme as a whole.
28 Average unit rate reduced on projects across the programme.
29 From 2014/15 we have changed how we calculate the NPV for the programme to only focus on the elements funded by FCRM GiA, previous years included other external investments. We have back dated this calculation to previous years if required (not provided here as requested by CO).
30 This figure has historically been based on a 3 year rolling average, however as we have a 6 year programme from 2015/16, we have adjusted it to be a 6 year rolling average from 2014/15. The reason for this is to appropriately represent the ratio of project development over the life of the programme: in the early years of the programme project development will be accelerated in order to provide intelligence to make decisions about delivering the programme most efficiently.

Table 8: Construction Cost Benchmarks for DfT/Highways England-Major Projects

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				Single point average (P50)	Range P10-P90[31]	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	Single point average (P50)	Range P10-P90
Major Projects	Trunk Road Improvement[32]	**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[33]	No Projects[8]		6.7	5.8 7.5
		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			1.8	1.6 2.0
	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[34]		19.5	17.0 21.4[9]	No Projects	
	Managed Motorways	**Type 1:** Total construction cost additional lane provided	£M/km	6.3	4.9 7.8	9.7	8.7 10.6[35]	4.2	3.5 4.9[36]	3.6	3.0 3.9[37]	4.0	3.4 4.4[10]	3.5	2.9 4.0
		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	0.9	0.8 1.1

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 38: DfT/Highways England-Major Projects Trunk Roads

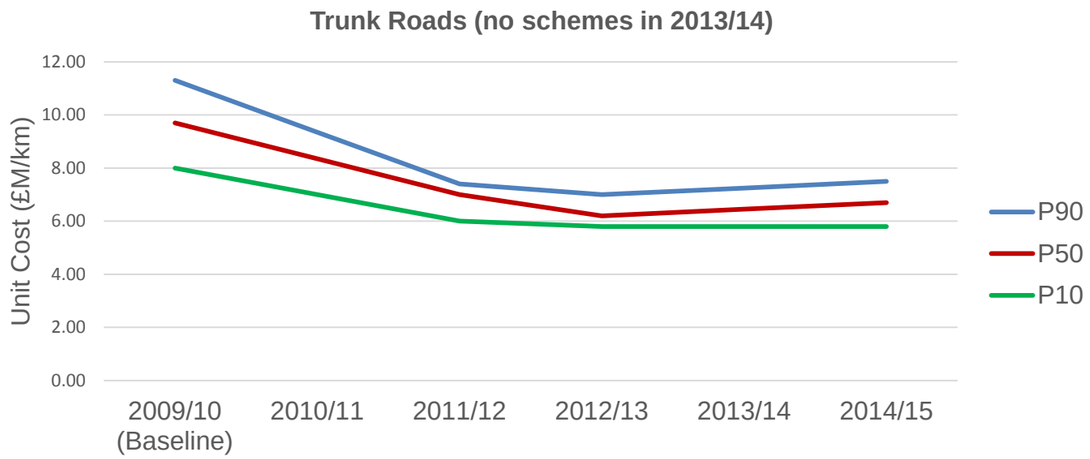
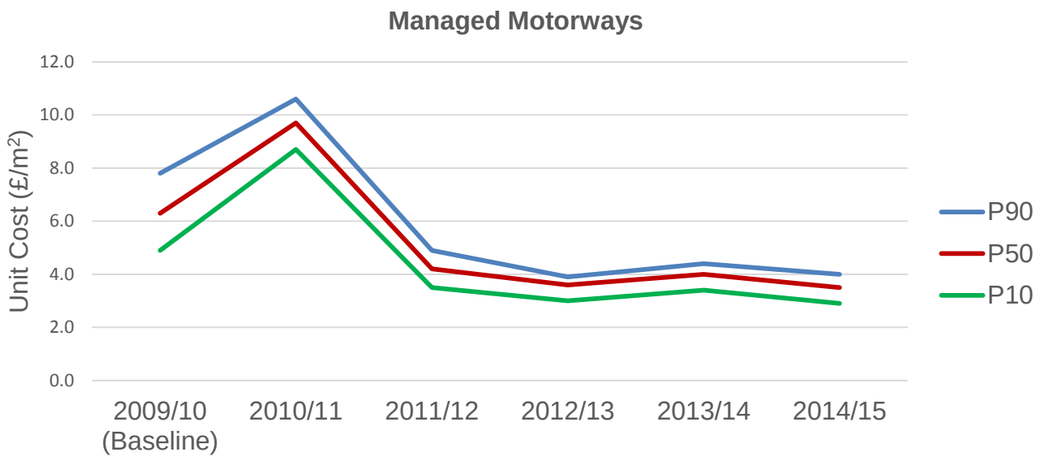


Chart 39: DfT/Highways England-Major Projects Managed Motorways



31 HE 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.
32 Trunk road projects that incorporate widening along the existing alignment or construction of a new alignment (by-pass).
33 Data only available from a single project.
34 Further junction work is anticipated beyond 2012/13.
35 Only one Managed Motorway project was started in 2010/11.
36 Data available from only three projects.
37 Data only available from two projects.

Table 9: Construction Cost Benchmarks for DCLG/HCA: England (excluding London)

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
New Build	House/flat for rent	Type 1: Total construction cost	£ / m^2	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	1,414	1,157 1,677
	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	1,396	1,141 1,592
	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	1,353	1,145 1,627
	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	1,849	1,485 2,252
	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	99,107	81,371 119,480
			£/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	27,907	21,127 35,968
	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	105,192	87,449 124,034
			£/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	26,285	20,534 31,512
	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	97,554	80,888 118,792
			£/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	26,122	20,936 33,854
	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	108,219	84,024 121,451
			£/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	43,708	34,144 64,081
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	2,072	1,649 3,084		

Chart 40: DCLG/HCA: England (excluding London) House/Flat for Rent

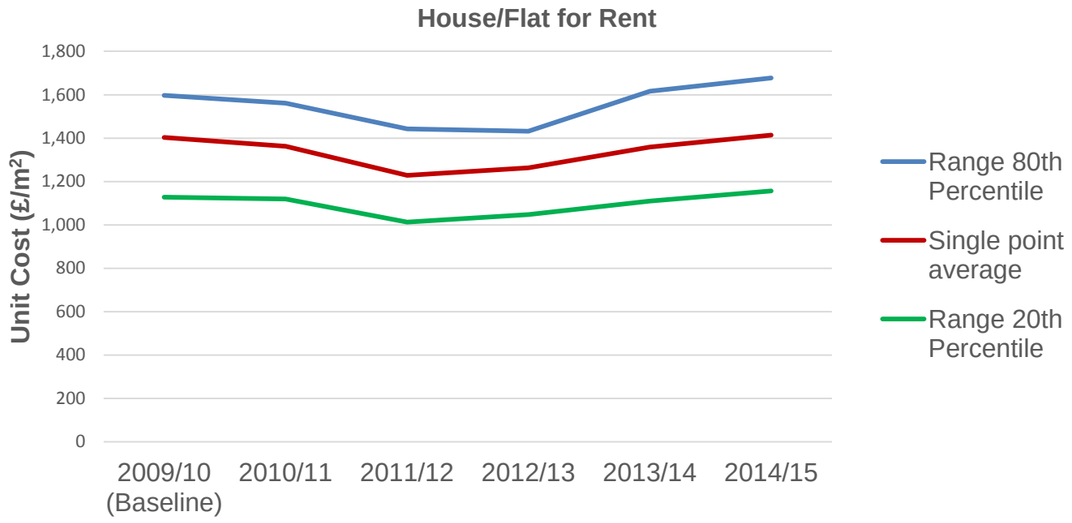


Chart 41: DCLG/HCA: England (excluding London) House/Flat for LCHO

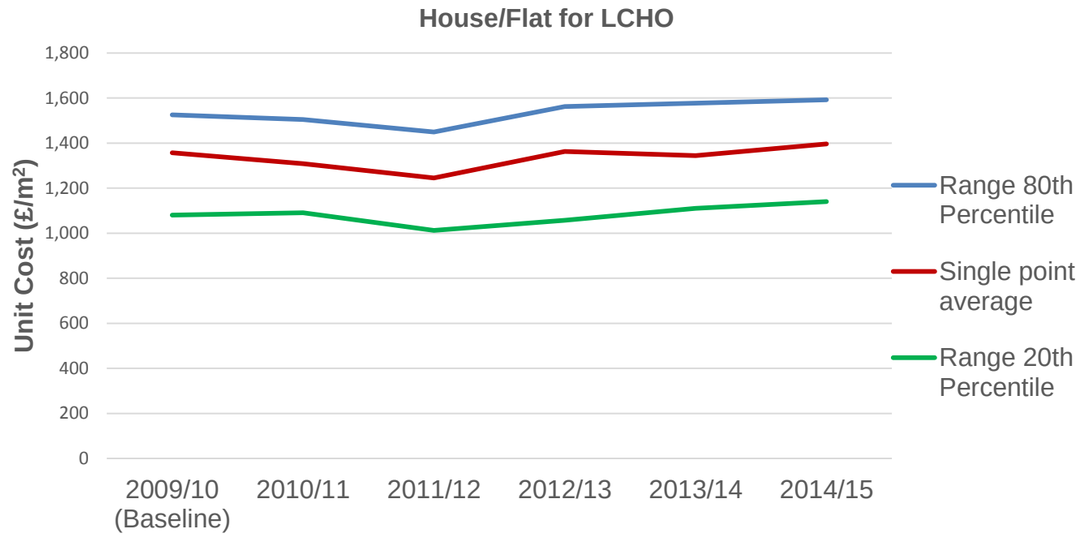


Chart 42: DCLG/HCA: England (excluding London) House/Flat for General Needs

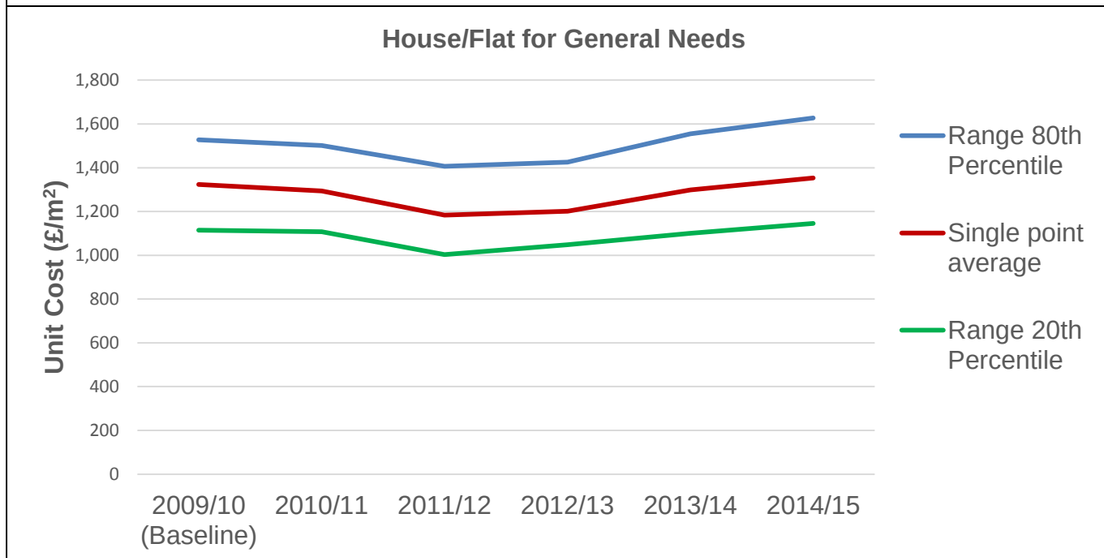


Chart 43: DCLG/HCA: England (excluding London) House/Flat Support and Older Persons Housing

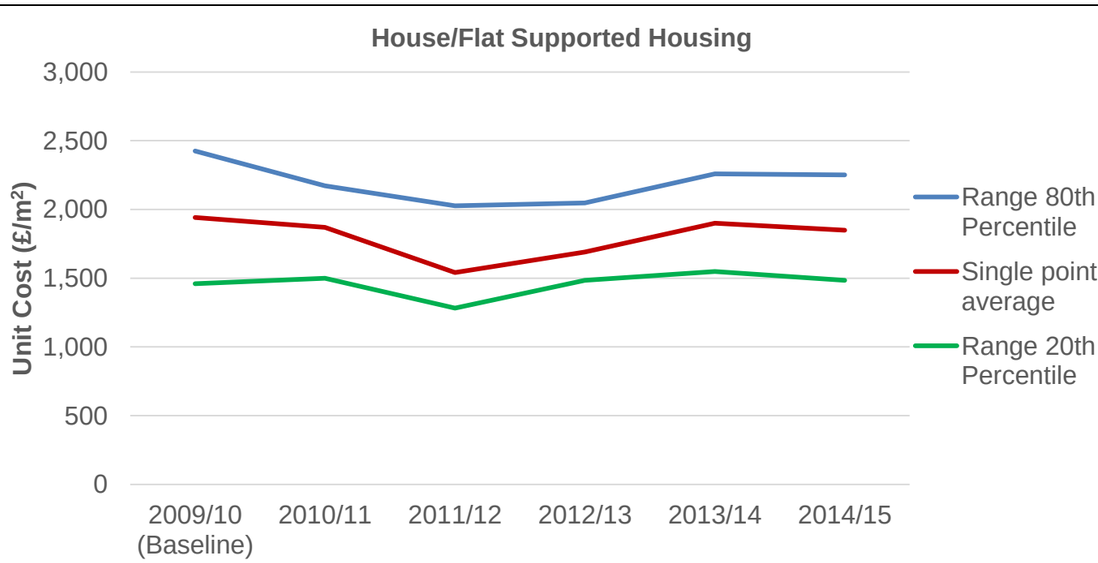


Table 10: Construction Cost Benchmarks for Ministry of Defence: Single Living Accommodation (SLA)

Project Type	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
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	1174	1150 1197
		Type 2	£/Bed	46154	43244 48964	41836 (single project)	Insufficient data	40792	39933 41651	n/a	n/a	41235	36594 45850	35773	33859 37687
		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 29.6	30.62	28.37 32.86
	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	n/a	n/a
		Type 2	£/Bed	41446	36320 45216	56417 (single project)	Insufficient data	46031 (single project)	Insufficient data	42214 (single project)	Insufficient data	38744	38183 39146	n/a	n/a
		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	28.6 29.04	n/a	n/a
	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	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	n/a	n/a
		Type 2	m²/Bed	23.31	23.09 23.8	n/a	n/a	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	1154 (single project)	Insufficient data
		Type 2	£/Bed	35726	31183 40559	n/a	n/a	35320 (single project)	Insufficient data	30367 (single project)	Insufficient data	27206	27039 27045	26279 (single project)	Insufficient data
		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	22.77 (single project)	Insufficient data
	Senior NCO /Junior Officer Accommodation	Type 1	£/m²	1282	1129 1385	1185	1125 1245	n/a	n/a	1181	1145 1226	1072	1044 1113	1085	987 1155
		Type 2	£/Bed	47983	43211 53068	54816	52095 57536	n/a	n/a	44208	41280 47483	41620	40281 43655	37800	36311 39422
		Type 2	m²/Bed	37.69	35.97 39.23	46.9	42.24 51.56	n/a	n/a	37.35	35.99 38.73	38.79	38.36 39.21	35.04	31.44 37.04

Table 10: Construction Cost Benchmarks for Ministry of Defence: Single Living Accommodation (SLA)

Project Type	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
	Mixed Provision	Type 1	£/m^2	1384	1173 1552	1207	1082 1332	1458 (single project)	Insufficient data	1319	1205 1470	1233	1121 1310	1476 (single project)	Insufficient data
		Type 2	£/Bed	49113	43914 55608	42063	40987 43139	64442 (single project)	Insufficient data	45343	40443 50278	62415	52270 74895	34993 (single project)	Insufficient data
		Type 2	m^2/Bed	36.34	30.14 42.52	35.64	32.85 38.44	44.2 (single project)	Insufficient data	34.73	31.36 40.96	40.53	37.74 46.06	23.72 (single project)	Insufficient data
	Senior Officer	Type 1	£/m^2	1384	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	877 (single project)	Insufficient data
		Type 2	£/Bed	77393	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	68806 (single project)	Insufficient data
		Type 2	m^2/Bed	55.47	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	78.5 (single project)	Insufficient data
	Aggregated Sample – All Types	Type 1	£/m^2	1390	1227 1570	1321	1086 1495	1469	1394 1505	1303	1205 1469	1200	1111 1323	1124	987 1198
		Type 2	£/Bed	45092	38465 51568	48669	41836 56417	45475	38552 49713	44001	39219 48658	44733	37924 51397	38948	34993 39422
		Type 2	m^2/Bed	32.83	28.46 38.33	37.9	30.98 40.3	31.02	26.73 32.96	n/a	n/a	33.74	28.87 39.15	36.04	26.87 37.04

Chart 44: Ministry of Defence: Single Living Accommodation (SLA) Senior NCO[38]

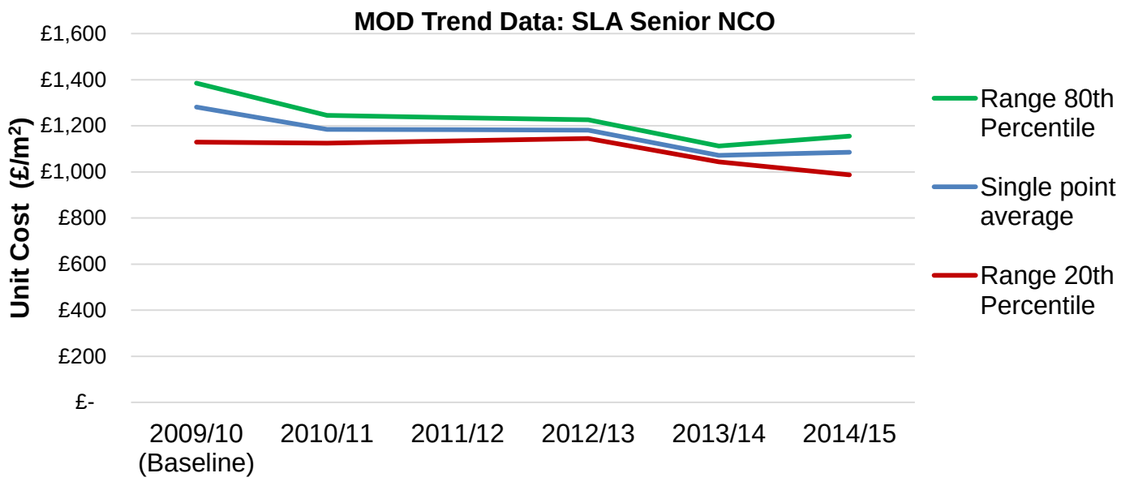
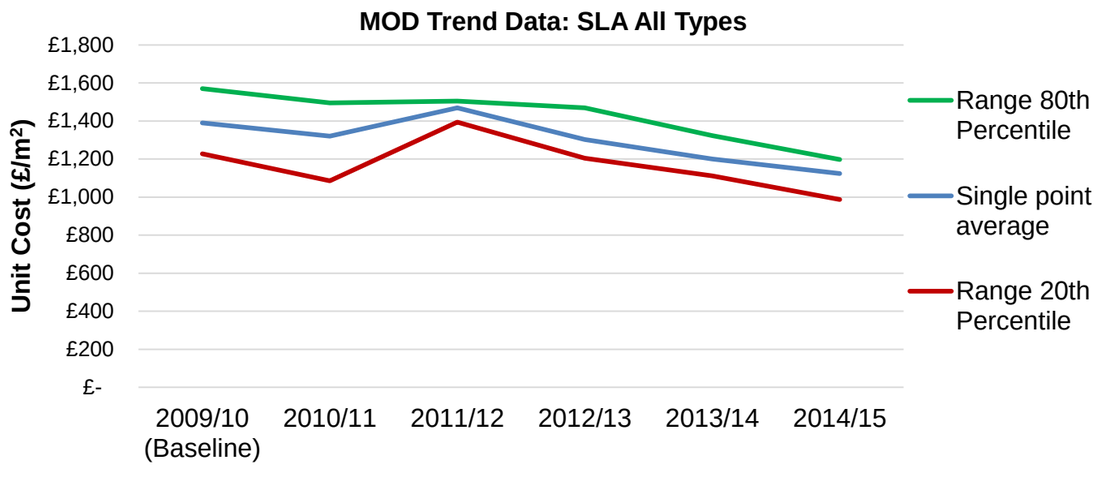


Chart 45: Ministry of Defence: Single Living Accommodation (SLA) All Types



[38] Although the graph highlights the cost per m2 (£/m2 cost) for SNCO accommodation increasing this is as a result of the area of bedrooms reducing from 39.21m2/bed in 2013/14 to 35.04m2/bed in 2014/15. This has subsequently 'increased' the cost/m2. See Table 10 for information.

Table 11: Construction Cost Benchmarks for Ministry of Defence: Service Family Accommodation (SFA)

Project Type	Project Subtypes[39,40]	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
Service Family Accommodation	Type B – Two bedrooms	Type 1	£/m²	1043	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 2	£/House	89187	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Type C – Three bedrooms	Type 1	£/m²	1063 (single project)	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	893 (single project)	Insufficient data	n/a	n/a
		Type 2	£/House	105347 (single project)	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	91451 (single project)	Insufficient data	n/a	n/a
	Type D – Four bedrooms	Type 1	£/m²	1013	971 1062	n/a	n/a	n/a	n/a	n/a	n/a	840	823 858	n/a	n/a
		Type 2	£/House	139287	134527 148112	n/a	n/a	n/a	n/a	n/a	n/a	103323	102160 104485	n/a	n/a
	Type I – Four bedrooms	Type 1	£/m²	976	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 2	£/House	245027	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Type II – Four bedrooms	Type 1	£/m²	965	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 2	£/House	202668	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Type III – Four bedrooms	Type 1	£/m²	899 (single project)	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	1056 (single project)	Insufficient data	n/a	n/a
		Type 2	£/House	138872 (single project)	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	167936 (single project)	Insufficient data	n/a	n/a
	Type IV – Four bedrooms	Type 1	£/m²	883	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	1058 (single project)	Insufficient data	n/a	n/a
		Type 2	£/House	121530	Insufficient data	n/a	n/a	n/a	n/a	n/a	n/a	14707 (single project)	Insufficient data	n/a	n/a

[39] The benchmarks include data for projects covering 2008 to 2011 because of the low sample size.
[40] 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: Service Family Accommodation (SFA)

Project Type	Project Subtypes[39,40]	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
	Type V – Three bedrooms	Type 1	£/m^2	897	884 910	n/a	n/a	n/a	n/a	n/a	n/a	1071 (single project)	Insufficient data	n/a	n/a
		Type 2	£/House	106741	105190 108291	n/a	n/a	n/a	n/a	n/a	n/a	127464 (single project)	Insufficient data	n/a	n/a

Table 12: Construction Cost Benchmarks for Ministry of Defence: Airfield Pavements

Project Type	Project Subtypes[41]	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
Airfield Pavements	Resurfacing	Type 1	£/m^2	71	48 87	n/a	n/a	n/a	n/a	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	n/a	n/a	n/a	n/a

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

Table 13: Construction Cost Benchmarks for Ministry of Defence: Technical Buildings

Project Type	Project Subtypes[42],[43]	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
New Build Technical Buildings	Mess Facilities	Type 1	£/m²	2666	1981 3337	n/a	n/a	n/a	n/a	n/a	n/a	1576	1383 1737	1124 (single project)	Insufficient data
	Offices	Type 1	£/m²	1626	1357 2085	n/a	n/a	n/a	n/a	n/a	n/a	1359	1281 1445	1412	1301 1523
	Training	Type 1	£/m²	1900	1530 2123	n/a	n/a	n/a	n/a	n/a	n/a	1047	552 1520	n/a	n/a
	Medical / Dental	Type 1	£/m²	2216	1816 2469	n/a	n/a	n/a	n/a	n/a	n/a	1389	1174 1579	1932 (single project)	Insufficient data
	Stores	Type 1	£/m²	1178	647 1438	n/a	n/a	n/a	n/a	n/a	n/a	967	979 1038	n/a	n/a
	Garages	Type 1	£/m²	1288	1104 1484	n/a	n/a	n/a	n/a	n/a	n/a	994 (single project)	Insufficient data	746	662 815

[42] The benchmarks include data for projects covering 2004/05 to 2012/13 because of the low sample size.
[43] In order to increase the sample size and with the aim of improving confidence levels in the resultant benchmarks, statistics represent baseline data across a variety of procurement routes, with some data (procured through PFI) having required an element of alignment based on analysis of costs within the wider sample.

Table 14: Construction Cost Benchmarks for Ministry of Justice

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
All projects	New Build	Type 1: Kitchens	£/m²	2999	Insuff. data	n/a	n/a	n/a	n/a	2482	Insuff. data	2735	Insuff[44]. data	n/a	n/a
		Type 1: House Blocks	£/m²	3465	2679 4510	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Insuff. data	n/a	n/a
		Type 1: New Prison	£/m²	3585	Insuff. data	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Type 1: New Ancillary (incl. prison workshops)	£/m²	3528	2091 5115	2832	Insuff. data	n/a	n/a	2566	2071 3082	n/a	n/a	1935	Insufficient data
		Type 1: Court Buildings	£/m²	5046	Insuff. data	n/a	n/a	3970	Insuff. data	n/a	n/a	n/a	n/a	n/a	n/a
	Refurbishment	**Type 1:** Prison: General Minor Refurbishment	£/m²	1542	430 2294	2402[45]	497 2830	1204	109 2080	n/a	n/a	n/a	n/a	n/a	n/a
		Type 1: Prison: Major Refurbishment	£/m²	3940	3728 5092	n/a	n/a	n/a	n/a	2856	Insuff. data	n/a	71	1263	145 2183
		Type 1: Prison: Major M & E - Fire & General Alarms	£/m²	284		n/a		n/a		n/a		148	213	n/a	n/a
	New Build	**Type 3:** Product value[46] from Cost Component Breakdown	%	45	n/a	49	n/a	54	n/a	59	n/a	62.4	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	47.6	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	54.7	n/a

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

Chart 46: Ministry of Justice New Ancillary[47]

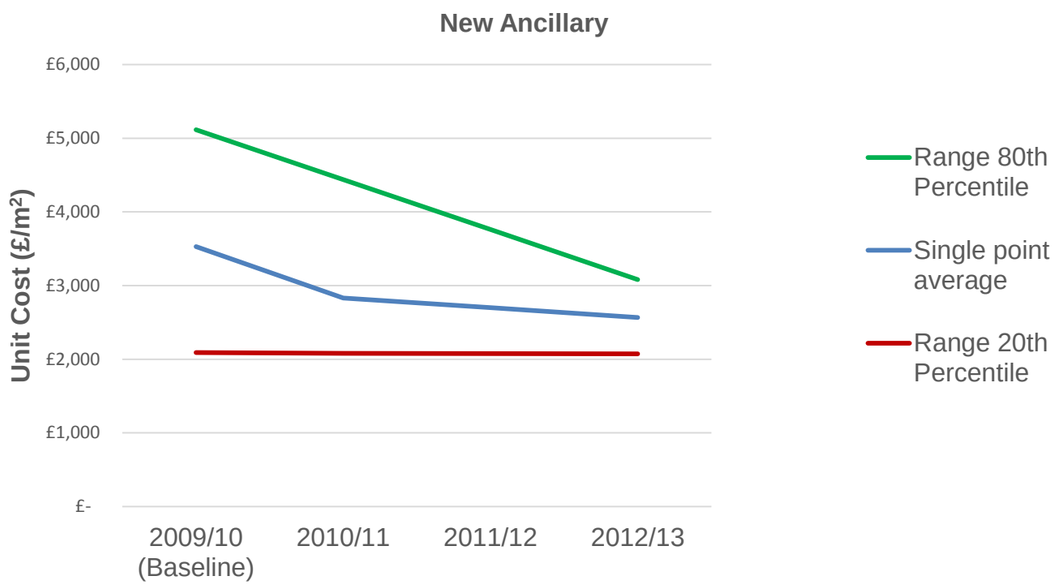
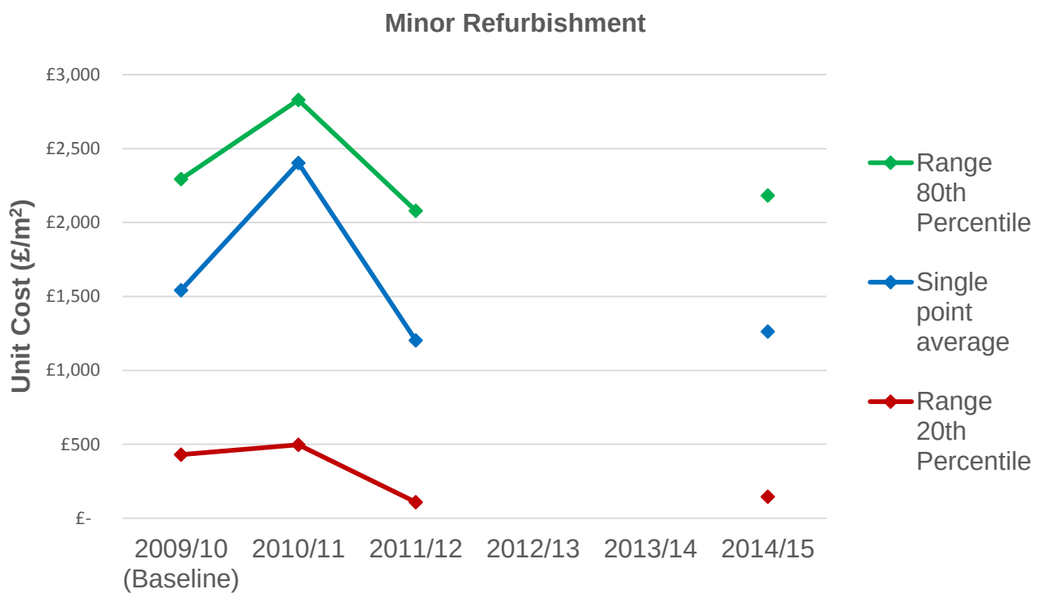


Chart 47: Ministry of Justice Minor Refurbishment



[47] No data post FY 2012/13 as no projects of this type built since

Table 15: Construction Cost Benchmarks for DfE / Education Funding Agency

Project Types	Project Subtypes	Benchmarks	Units	2009/10 (Baseline)		2010/11		2011/12		2012/13		2013/14		2014/15	
				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
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.				2191	1874 2685
	GIFA 2-4,000 m^2		£/m^2	2780	1999 3442	2897	2084 3588	2230	Insuff. data					2068	1889 2170
	GIFA 4-6,000 m^2		£/m^2	2566	1914 3033	2675	1995 3162	2098	1925 2302					2127	2023 2241
	GIFA 6-8,000 m^2		£/m^2	2303	2132 2508	2400	2222 2615	2115	2055 2173					1873	1732 2020
	GIFA 8-10,000 m^2		£/m^2	2158	1863 2403	2250	1942 2505	Insuff. data	Insuff. data					1829	1756 1904
	GIFA 10-12,0000 m^2		£/m^2	1980	1837 2081	2064	1915 2169	1950	Insuff. data					1881	1748 1942
	GIFA 12-14,000 m^2		£/m^2	1899	1701 2017	1980	1773 2103	Insuff. data	Insuff. data					1781	1781 1781
	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:															

Table 16: Construction Cost Benchmarks for DfE / Education Funding Agency: All Capital Programmes (2014/15)

Total number of schools across all programmes		90	
Average cost per m^2 of all projects	1998	Number of schools within sample	90
Note:			

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).

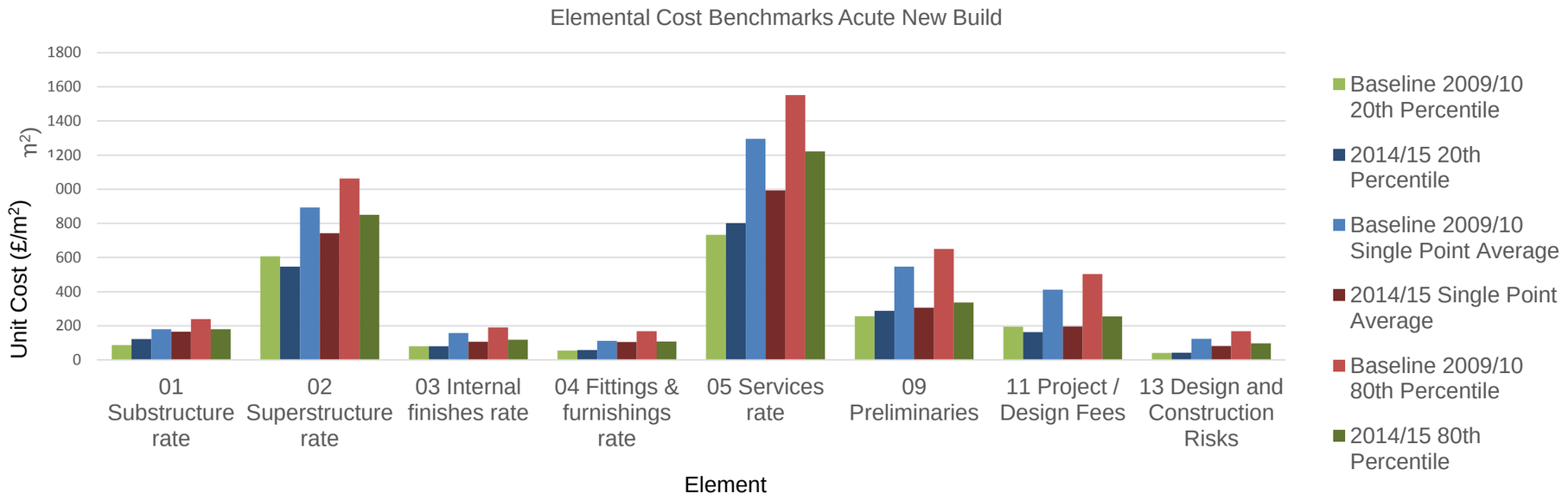
The publication of elemental (group element) benchmarks highlights the data available to departments in comparing costs - whether internally or externally - these comparisons being more instructive than those relating to overarching benchmarks. In comparing elemental (group element) costs across departments – 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.

Summary Table A: Group Element Construction Cost Benchmarks (£/m²; compiled from Charts 34- 35, 44-47 above)																
Department	DoH / P21 (New Build) 2009/10 Baseline								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 89	89	66 115	172	62 268	109	N/A
02 Superstructure Rate	893	607 1063	743	554 859	630	585 658	435	203 597	558	472 623	472	421 557	1232	442 1735	570	N/A
03 Internal Finishes Rate	158	81 191	159	130 192	98	89 106	70	9 106	106	85 129	141	114 167	95	8 142	95	N/A
04 Fittings & Furnishings Rate	112	55 168	72	50 100	90	41 112	29	11 49	67	48 80	51	35 68	145	2 252	76	N/A
05 Services Rate	1295	733 1552	750	579 873	618	510 731	436	35 671	289	238 326	202	190 216	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	151	106 199	374	345 395	461	226 670	212	N/A
09 Preliminaries	547	257 651	368	289 422	248	229 295	228	33 364	330	279 387	223	164 320	423	151 804	333	N/A
11 Project / Design Fees	412	195 503	297	244 368	261	221 309	171	22 310	48	33 61	62	42 73	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 48: Elemental Construction Cost Benchmarks for Department of Health / P21: New Build (Various Project Types)



New Build Acute Project Types	Baseline 2009/10			2014/15		
Group Element Category	20th Percentile	Single Point Average	80th Percentile	20th Percentile	Single Point Average	80th Percentile
01 Substructure rate	87	180	240	122	166	180
02 Superstructure rate	607	893	1063	547	742	850
03 Internal finishes rate	81	158	191	80	107	119
04 Fittings & furnishings rate	55	112	168	58	106	108
05 Services rate	733	1295	1552	801	994	1222
09 Preliminaries	257	547	651	288	306	336
11 Project / Design Fees	195	412	503	163	196	255
13 Design and Construction Risks	41	124	168	42	82	97

What this cost data represents: Chart 48 represents a comparison of the elemental split of the 2009/10 baseline and 2014/15 20th/80th percentiles and SPA £/m² for New Build Acute Projects. External works are excluded and costs normalised to PUBSEC 173 and location factor 1.00 for consistency within the baseline.

Large variances in elemental £/m² are a result of the different project types within each cost category.

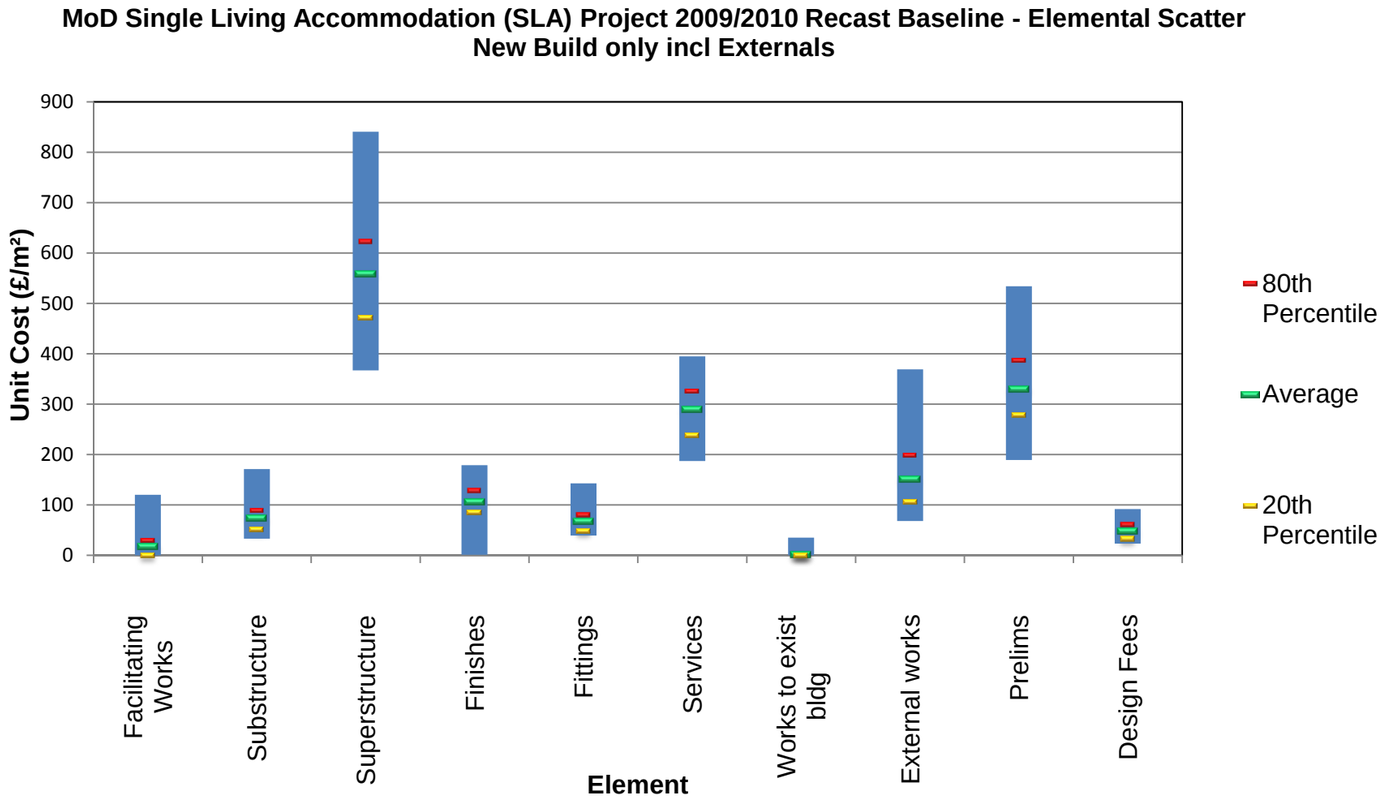
The sample size is the same as the 2009/10 baseline as detailed in Table 6.

Refurbishment projects are excluded due to the unavailability of 2009/10 baseline data.

Table 17: 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 £/m²)	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.				

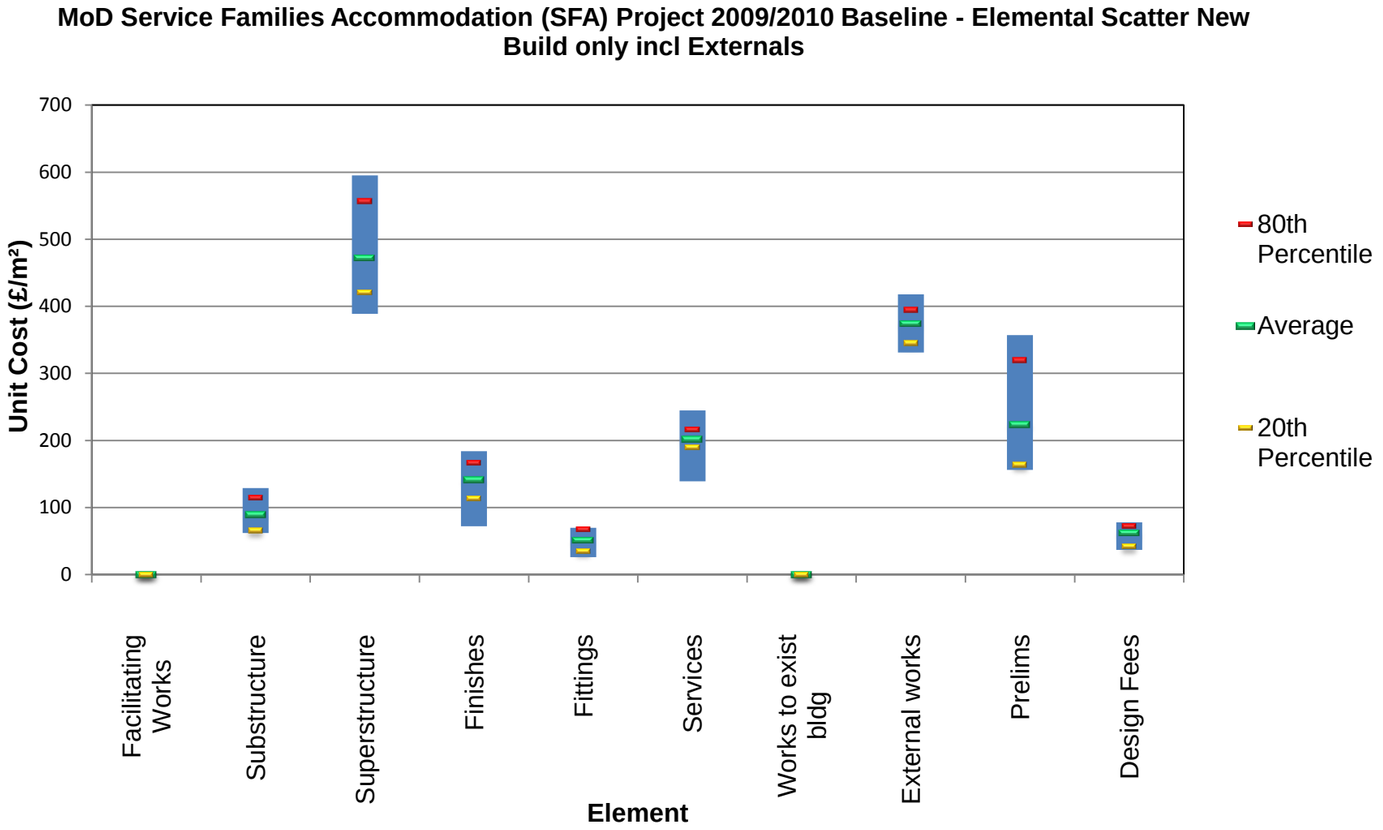
Chart 49: Elemental Construction Cost Benchmarks for Ministry of Defence: New Build (Single Living Accommodation)



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.

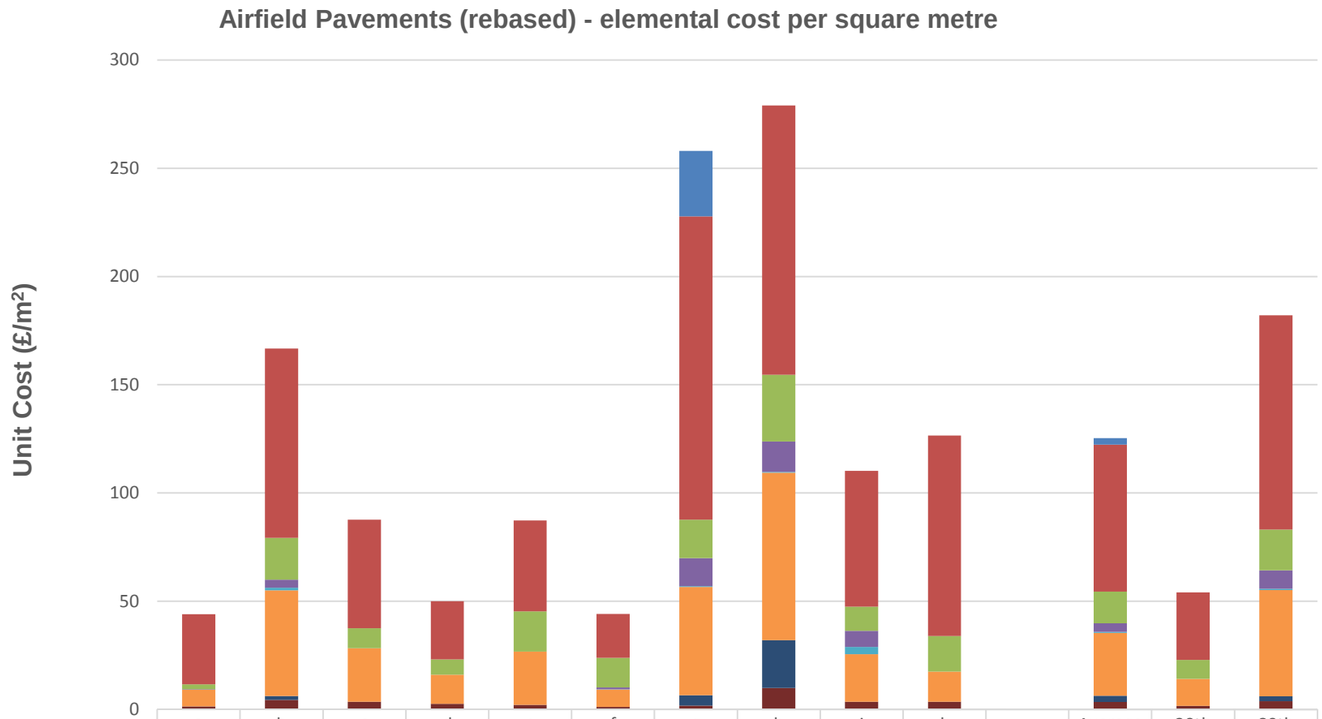
Chart 50: Elemental Construction Cost Benchmarks for Ministry of Defence: New Build (Service Families Accommodation)



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 51: Elemental Construction Cost Benchmarks for Ministry of Defence: Airfield Pavements

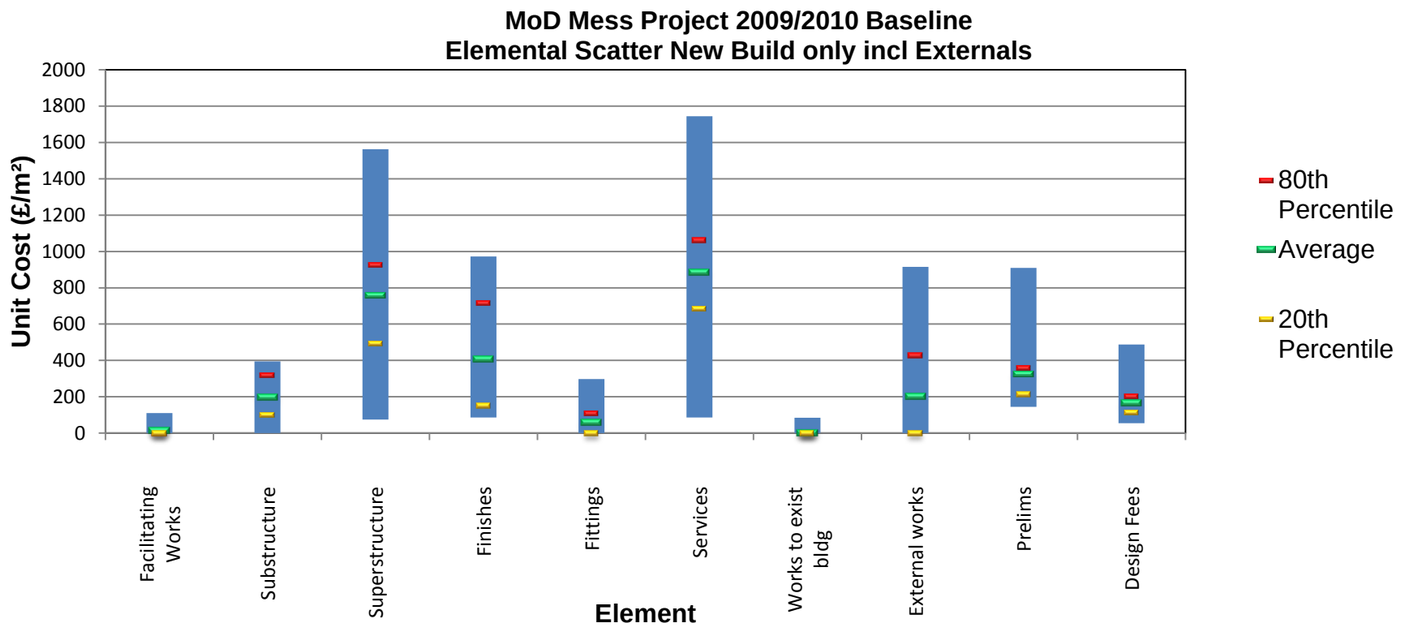


	a	b	c	d	e	f	g	h	j	k		Average	20th	80th
Substructures	0	0	0	0	0	0	30.21	0	0	0		3.02	0	0
Pavement	32.3	87.42	50.17	26.95	41.94	20.3	140.1	124.33	62.71	92.65		67.89	31.23	98.98
Pavement Completion	2.31	19.36	9.22	7.03	18.68	13.66	17.85	30.85	11.16	16.45		14.66	8.78	18.82
External Works	0.28	3.72	0	0	0	0.84	12.92	14.1	7.52	0		3.94	0	8.6
Facilitating Works	0	1.21	0	0	0	0.1	0.36	0.38	3.27	0		0.53	0	0.54
Preliminaries	7.6	48.84	24.78	13.51	24.54	8.05	50	77.28	22.06	13.84		29.05	12.42	49.07
Site Related temporary works	0	1.71	0	0	0	0	4.88	22.14	0	0		2.87	0	2.34
Design Fees	1.43	4.43	3.51	2.54	2.1	1.14	1.68	9.89	3.48	3.56		3.37	1.63	3.73
Other development costs	0	0	0	0	0	0	0	0	0	0		0	0	0

Element

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.

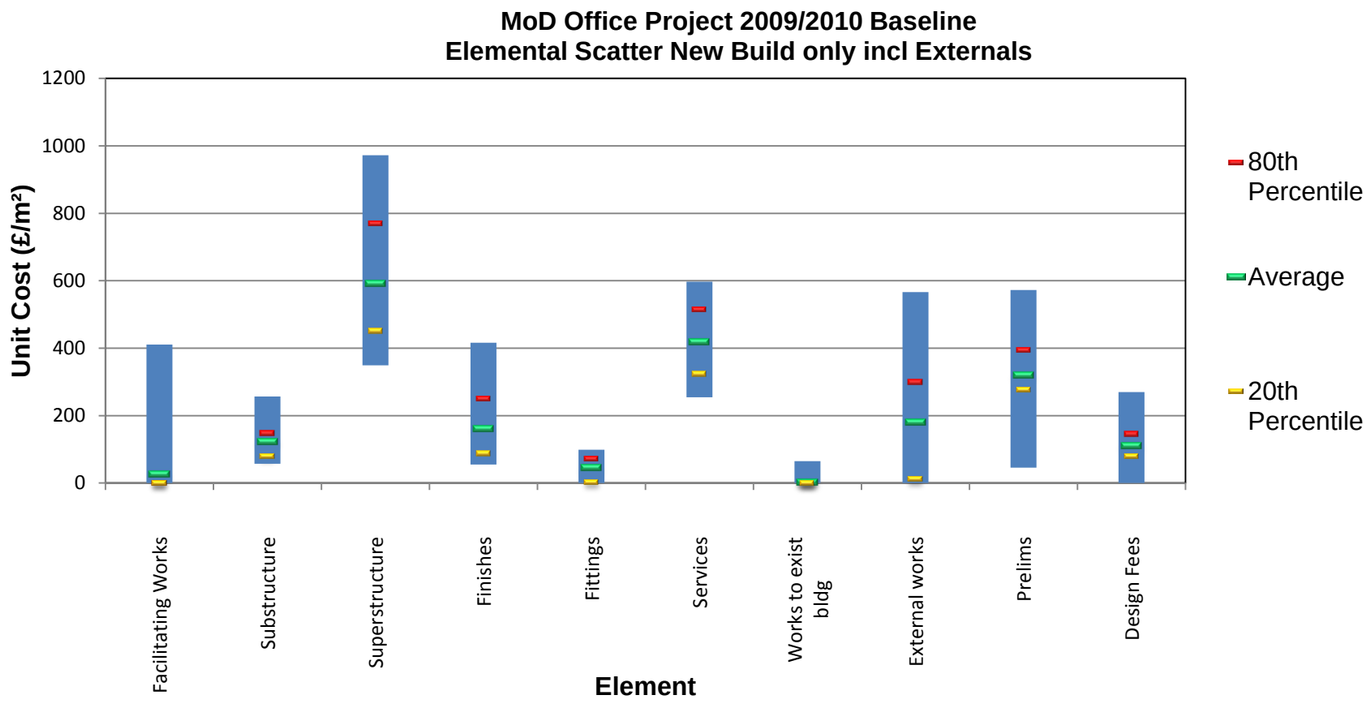
Chart 52: Elemental Construction Cost Benchmarks for Ministry of Defence: Mess Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	111	0	12	0	1
Substructure	395	0	198	101	318
Superstructure	1,563	75	757	493	927
Finishes	972	85	406	151	715
Fittings	298	0	58	0	107
Services	1,744	86	886	687	1,062
Works to exist bldg.	84	0	2	0	0
External works	915	0	202	0	427
Prelims	909	144	324	214	360
Design Fees	488	54	164	115	202
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 39 new build 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.

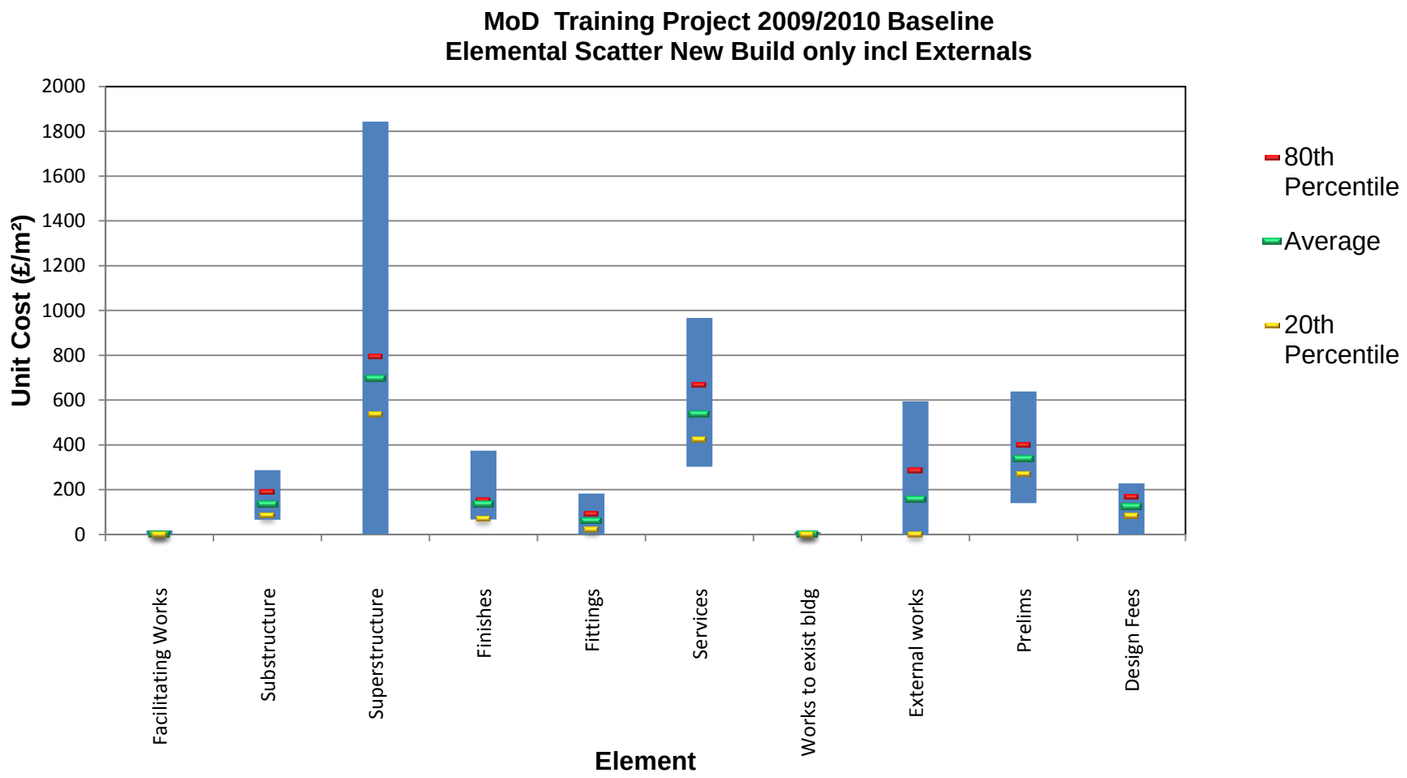
Chart 53: Elemental Construction Cost Benchmarks for Ministry of Defence: Office Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	411	0	27	0	0
Substructure	257	58	123	80	148
Superstructure	972	349	592	452	769
Finishes	416	55	162	88	251
Fittings	99	0	44	3	73
Services	597	255	418	323	516
Works to exist bldg.	65	0	3	0	0
External works	567	0	181	12	300
Prelims	572	46	320	277	394
Design Fees	270	0	111	81	146
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 22 new build 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.

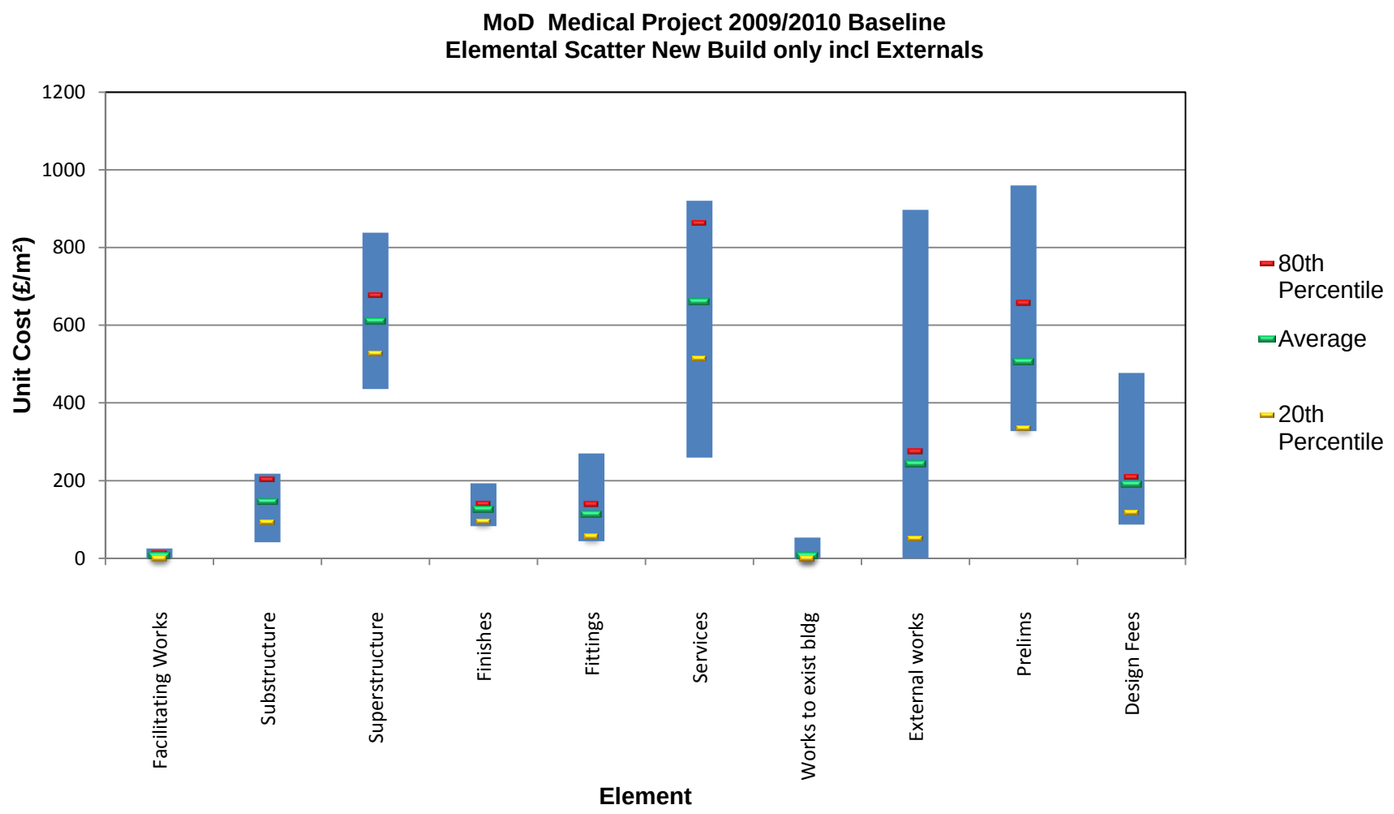
Chart 54: Elemental Construction Cost Benchmarks for Ministry of Defence: Training Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	19	0	2	0	0
Substructure	287	66	137	84	191
Superstructure	1,844	1	696	537	797
Finishes	374	67	133	72	152
Fittings	183	0	60	22	93
Services	966	302	537	424	669
Works to exist bldg	11	0	1	0	0
External works	594	0	158	0	286
Prelims	638	140	338	268	401
Design Fees	229	0	124	84	169
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 16 new build 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.

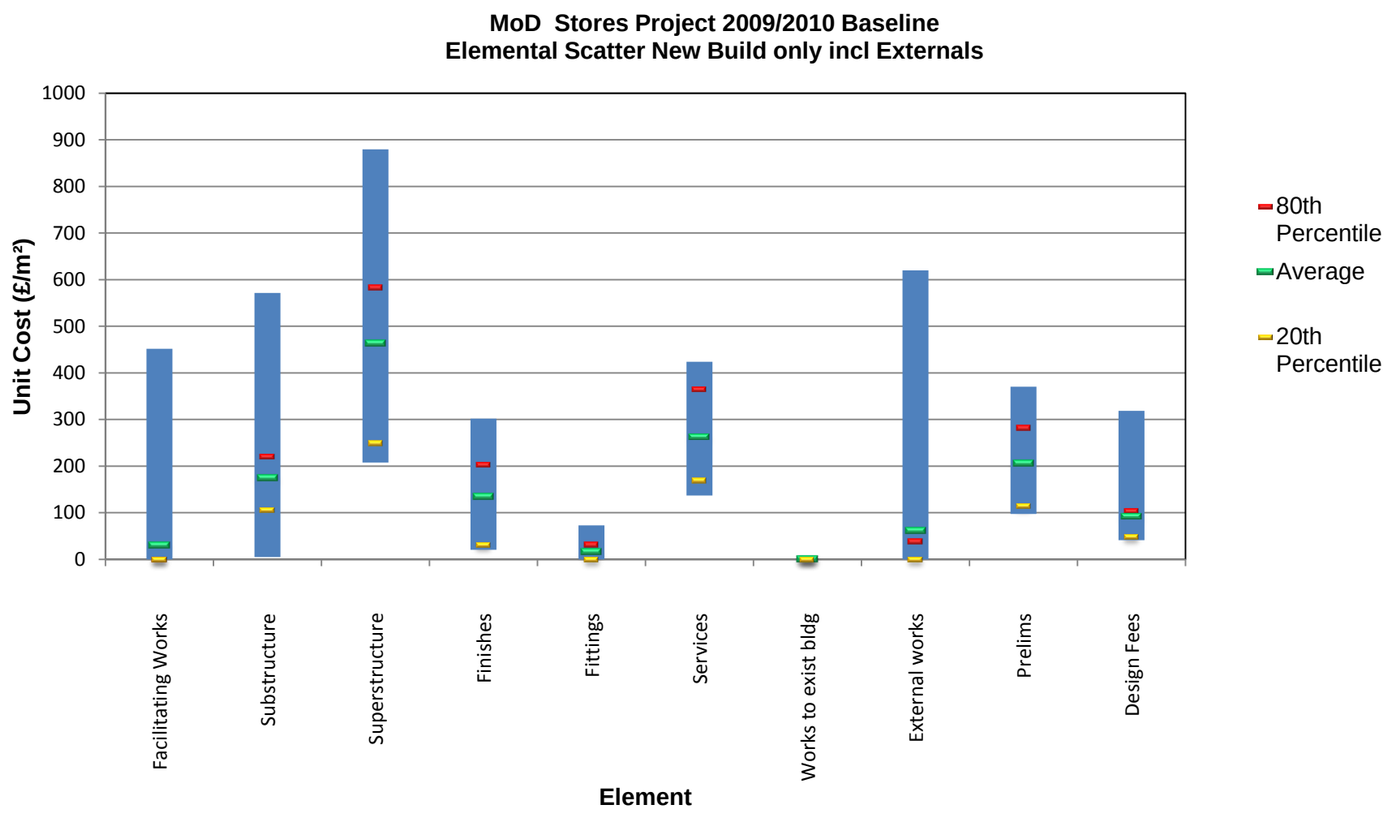
Chart 55: Elemental Construction Cost Benchmarks for Ministry of Defence: Medical Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	25	0	7	0	13
Substructure	217	41	145	93	203
Superstructure	838	435	609	527	677
Finishes	193	83	125	95	140
Fittings	270	44	112	56	140
Services	921	259	659	514	864
Works to exist bldg.	53	0	7	0	0
External works	897	0	242	51	275
Prelims	960	327	505	335	657
Design Fees	477	87	190	117	210
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 8 new build 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.

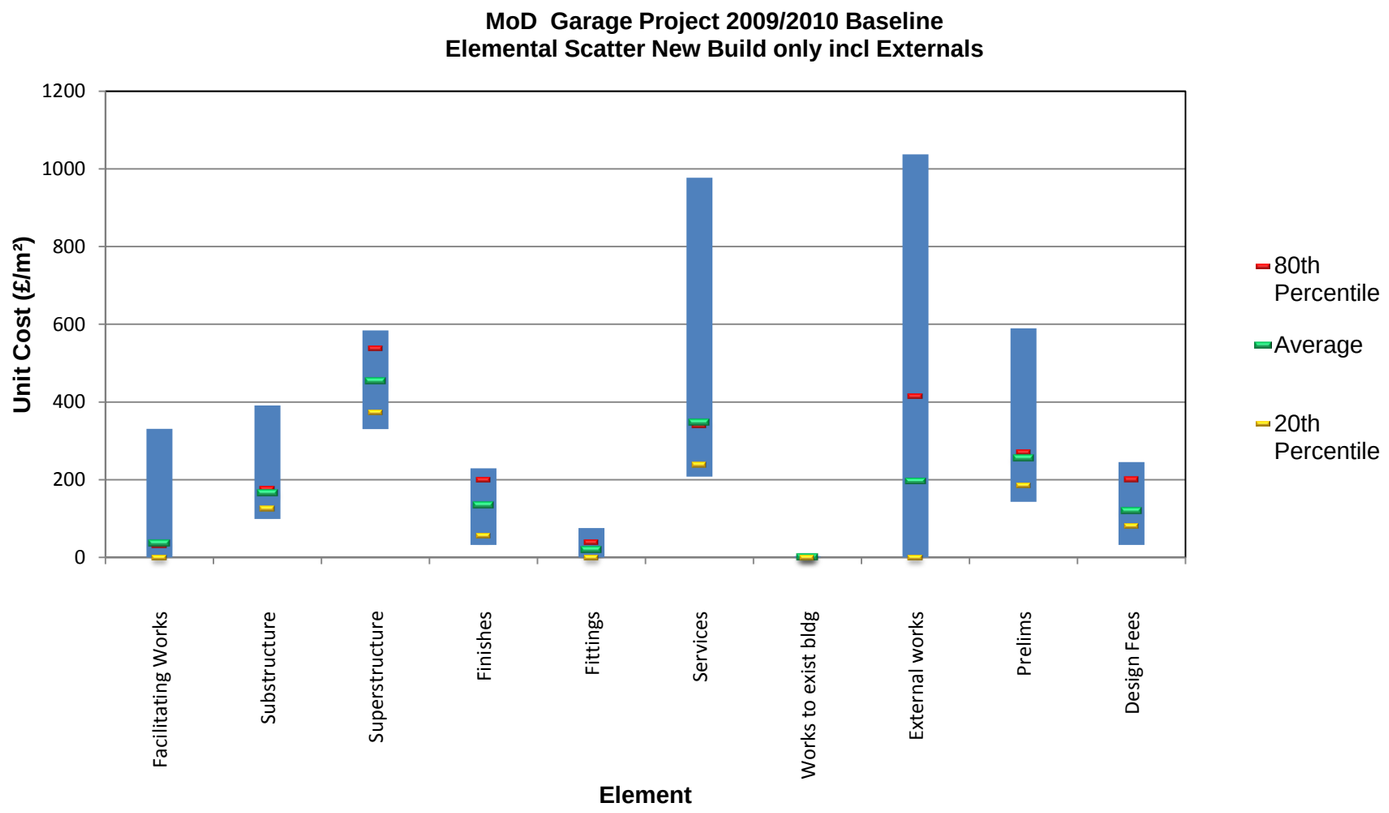
Chart 56: Elemental Construction Cost Benchmarks for Ministry of Defence: Stores Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	452	0	30	0	0
Substructure	571	5	174	105	221
Superstructure	880	208	464	250	583
Finishes	302	21	134	31	203
Fittings	73	0	17	0	32
Services	424	137	263	169	366
Works to exist bldg.	0	0	0	0	0
External works	620	0	61	0	39
Prelims	371	98	206	115	282
Design Fees	319	41	92	48	104
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 15 new build 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.

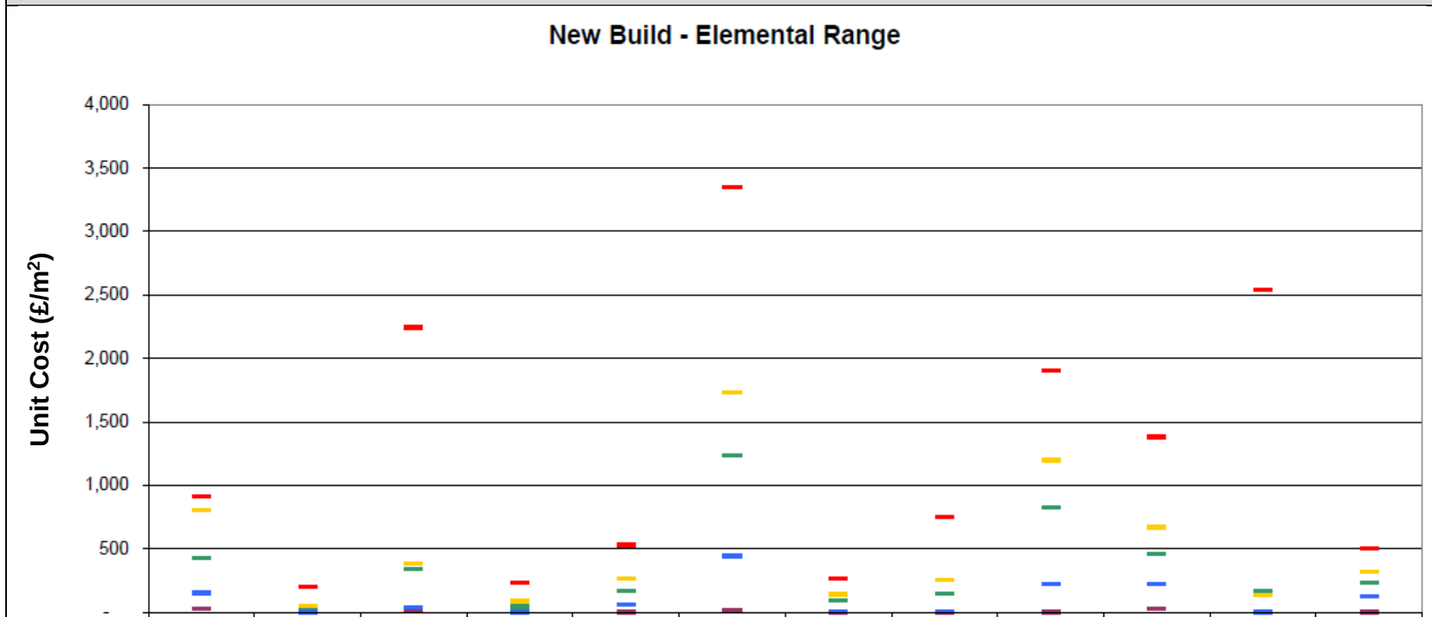
Chart 57: Elemental Construction Cost Benchmarks for Ministry of Defence: Garages Projects



Element	Max	Min	Average	20th Percentile	80th Percentile
Facilitating Works	331	0	37	0	32
Substructure	391	99	166	126	177
Superstructure	584	330	455	373	538
Finishes	229	32	135	56	200
Fittings	75	0	19	0	39
Services	977	208	347	239	340
Works to exist bldg.	3	0	1	0	2
External works	1,037	0	196	0	415
Prelims	590	143	255	185	271
Design Fees	245	32	120	82	201
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 15 new build 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 58: Elemental Construction Cost Benchmarks for Ministry of Justice: New Build (Various Project Types)



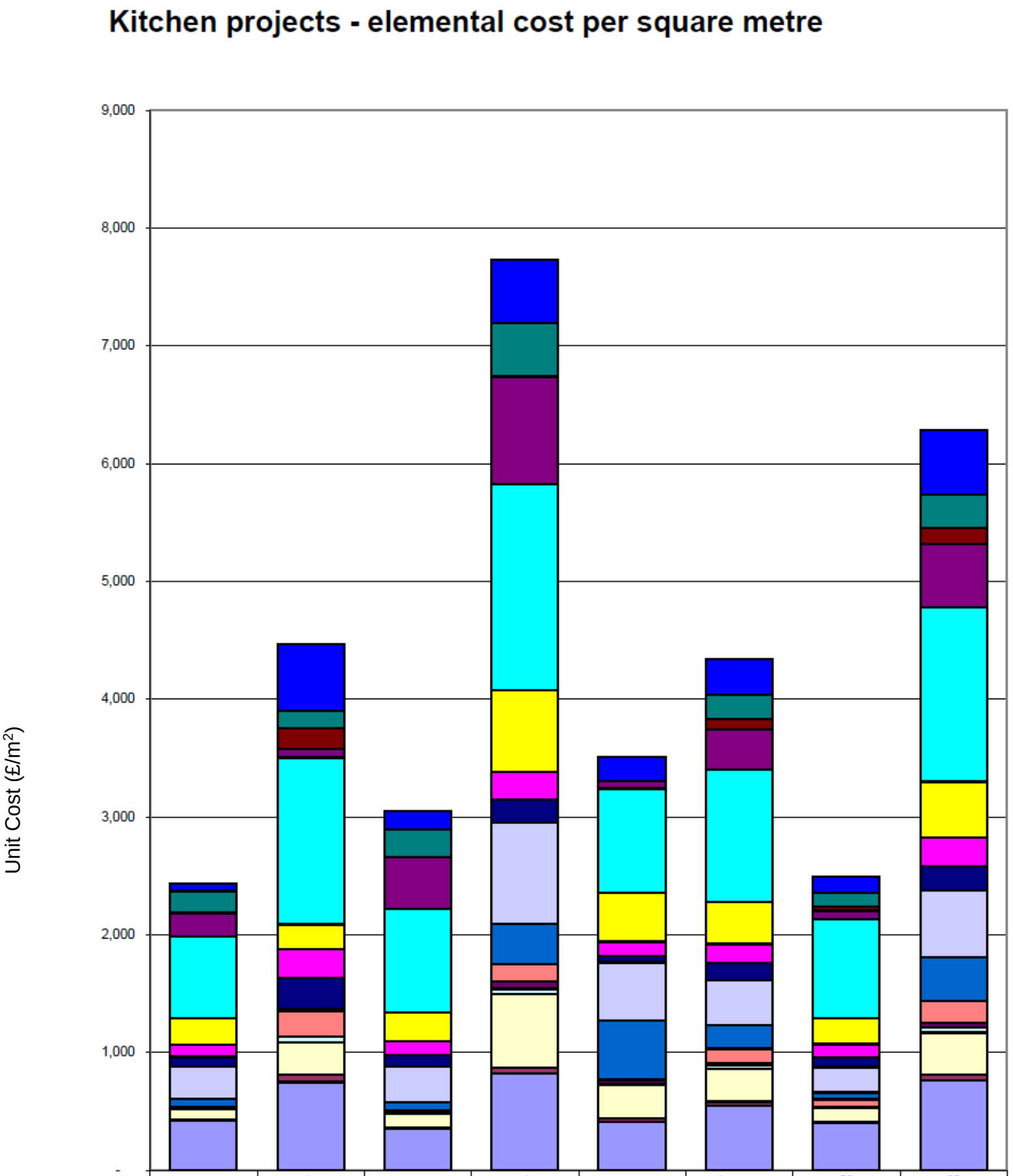
	Site Overheads	Risk	Constructor fees	Demolitions	Substructures	Superstructure	Internal finishes	Fittings	Building Engineering Services	External works	Minor works	Professional Fees
Average	423	35	342	44	172	1,232	95	145	825	461	162	229
Max	909	198	2,246	234	528	3,352	262	754	1,903	1,381	2,542	505
Min	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 59: Elemental Construction Cost Benchmarks for Ministry of Justice (Kitchens)

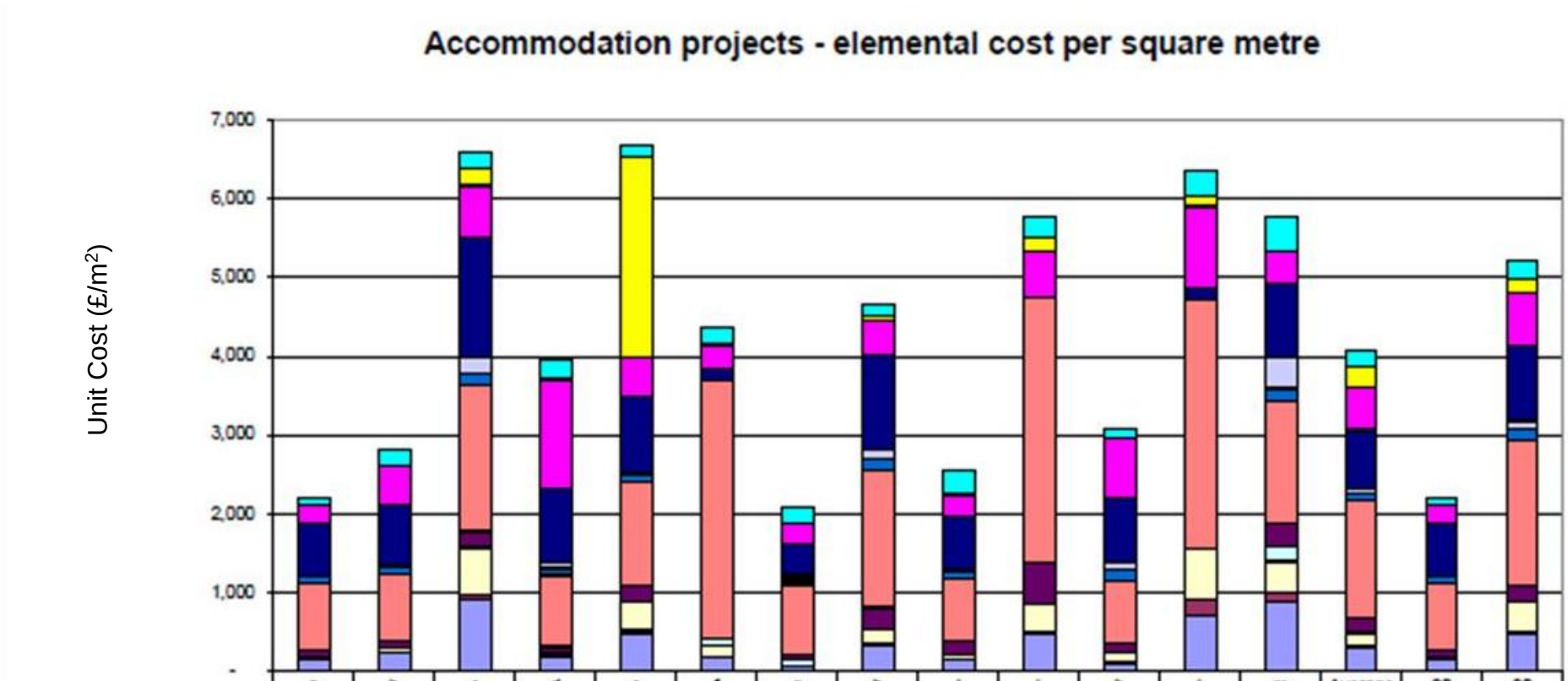
What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for 5 kitchen projects.



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

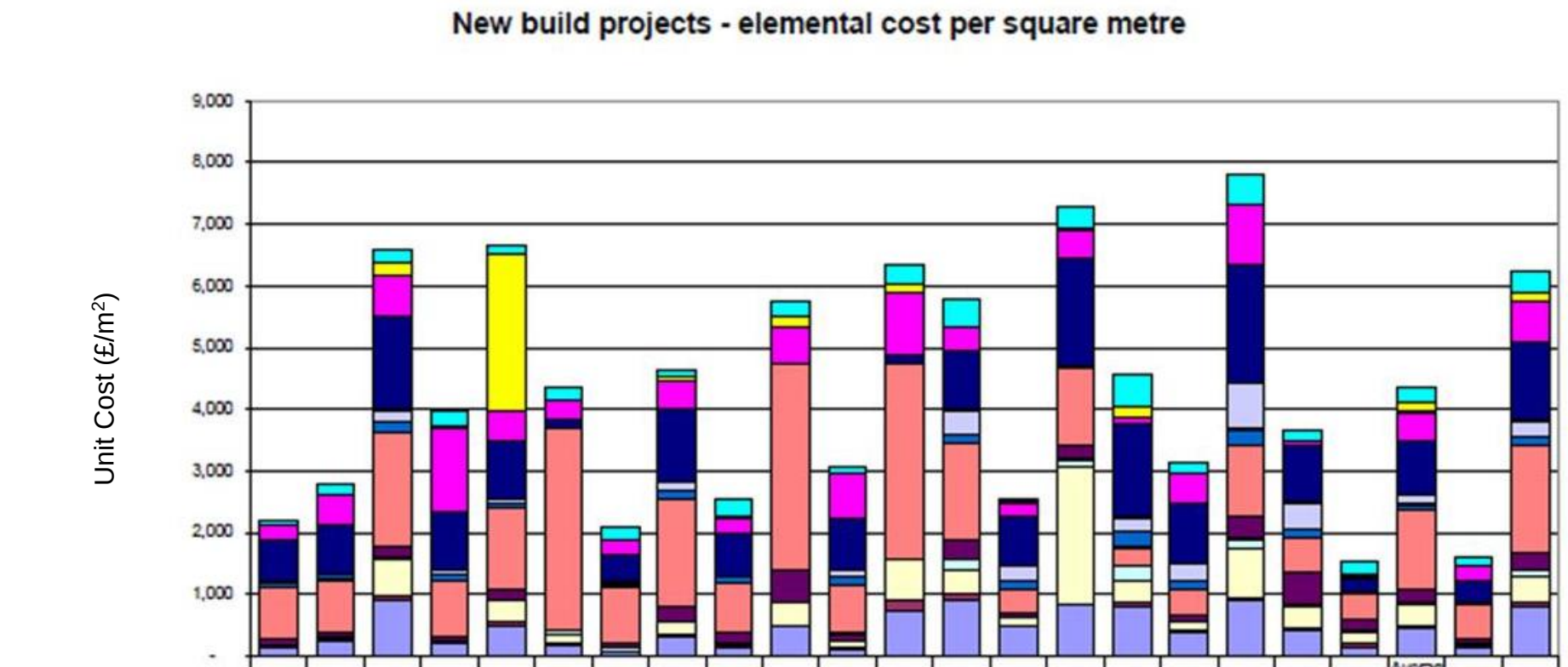
What this cost data represents: Normalised new build cost data (£/m^2) at constant 2009/10 prices for Accommodation projects.



	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

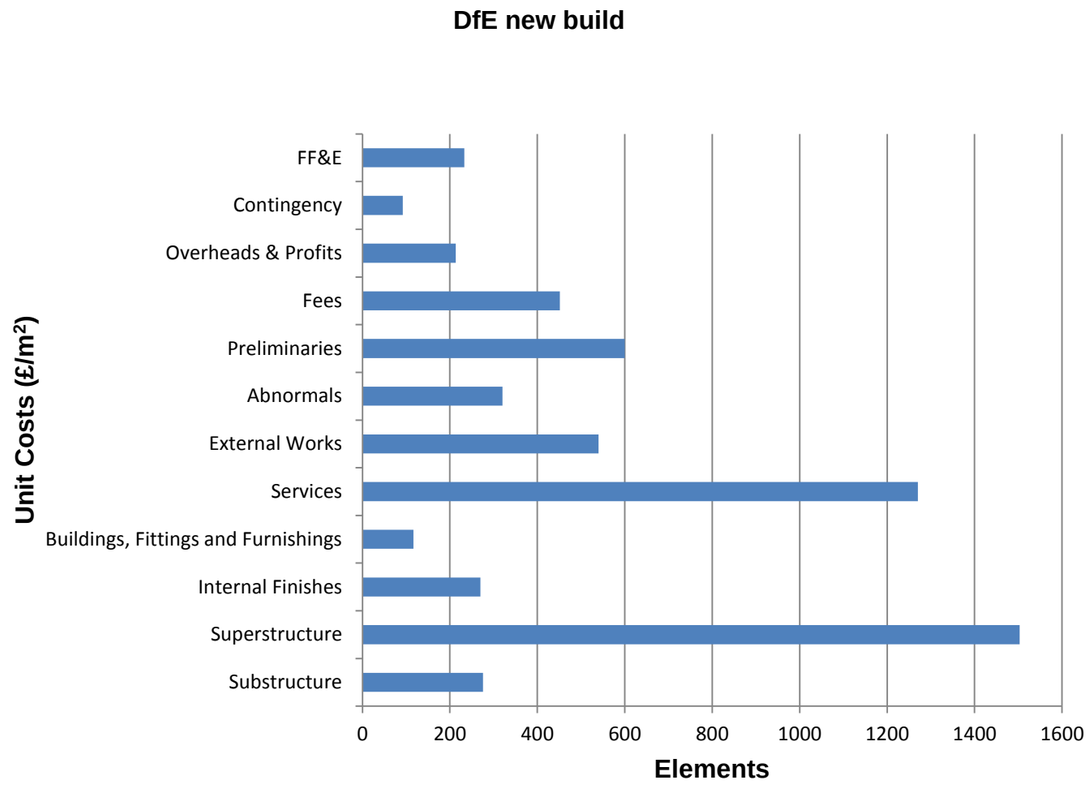
Chart 61 : Elemental Construction Cost Benchmarks for Ministry of Justice (New Build Projects)

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 62: 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)

What this cost data represents: Single point averages for the normalised new build cost data at constant 2009/10 prices given in Table 15 above.

Elements	Cost	
Substructure	£	275.50
Superstructure	£	1,502.91
Internal Finishes	£	269.99
Buildings, Fittings and Furnishings	£	116.72
Services	£	1,270.39
External Works	£	540.26
Abnormals	£	320.28
Preliminaries	£	600.12
Fees	£	451.73
Overheads & Profits	£	213.37
Contingency	£	92.00
FF&E	£	233.23

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
What the data represents	Benchmarks are based on capital cost £/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: 173Location 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 England 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 Operate (DBFO) All Lane Running (ALR) Schemes. There were 2 number Junction Improvement schemes which were complex projects.
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:	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)

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
	• 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); • 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).		• 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) **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 England 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

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
	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 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 6 are as follows: • Acute - New Build (12); • Mental Health - New Build (5); • Other - New Build (5); • Acute - Refurbishment (5);		2. Works to junction, new underpass **2014/15 update – 5 projects** • Managed Motorway (3) • Trunk Road Improvement (2)

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
	• Mental Health - Refurbishment (4) • All Schemes - (New Build and Refurbishment) (31). The numbers of projects making up each of the various figures in the 2014/15 benchmarks in Table 5 are as follows: • Acute - New Build (6); • Mental Health - New Build (3); • Acute - Refurbishment (5); • Mental Health - Refurbishment (3) • All Schemes - (New Build and Refurbishment) (17).		
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 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, i.e. construction prices, contractor's inflation & risks and client risk allowances. 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 and 2014/15) will be informed by agreed contract prices and client budget/risk allowances.

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
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 (£/m^2) reported at 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).	**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 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).	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, 2013/14, and 2014/15) will be an arithmetic mean of the project P50 costs. The Highways England 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 England 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.

Table 18: Commentary relating to Department Cost Benchmark Data provided in Charts 7 to 14, Tables 6 to 8 and Annex A Summary			
General areas to be addressed by commentary	Department of Health (P21 Framework) (with reference to Table 6 above)	DEFRA/Environment Agency (with reference to Table 7 above)	DfT/Highways England (with reference to Table 8 above)
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 England Early Contractor Involvement contract based on the NEC Option C Subsequent Managed Motorway projects are let using the Highways England NEC 3 Framework contract with Z clauses.

.

Table 19: Commentary relating to Department Cost Benchmark Data provided in Charts 15 to 19, Tables 36 to 40 and Annex A Summary	
General areas to be addressed by commentary	DCLG/Homes & Communities Agency (with reference to Table 9 above and Annex A below)
What the data represents	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 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	**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 2014/15 period is shown below:

Table 19: Commentary relating to Department Cost Benchmark Data provided in Charts 15 to 19, Tables 36 to 40 and Annex A Summary

General areas to be addressed by commentary	DCLG/Homes & Communities Agency (with reference to Table 9 above and Annex A below)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Total no. of schemes	2,197	1,996	723	1,251	2,101	999
Total no. of schemes (rent)	1,562	1,410	534	939	1,617	783
Total no. of schemes (LCHO)	635	586	189	312	484	216
Total no. of rent schemes (general needs)	1,401	1,282	490	866	1,496	720
Total no. of rent schemes (sup/older)	161	128	44	73	121	63
Total no. of homes	26,396	22,209	8,540	15,233	23,080	11,034
Total no. of homes (rent)	20,900	17,676	7,242	12,642	19,804	9,567
Total no. of homes (LCHO)	5,496	4,533	1,298	2,591	3,276	1,467
Total no. of rent homes (general needs)	17,441	14,919	6,122	10,626	17,132	8,174
Total no. of rent homes (sup/older)	3,459	2,757	1,120	2,016	2,672	1,393

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.

Table 19: Commentary relating to Department Cost Benchmark Data provided in Charts 15 to 19, Tables 36 to 40 and Annex A Summary	
General areas to be addressed by commentary	DCLG/Homes & Communities Agency (with reference to Table 9 above and Annex A below)
	• 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 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	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	**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	For both New Build and Refurbishment, the 2009/10 baseline data consists only of projects started on site during 2009/10.
Other areas	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 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 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 bed spaces 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 bed spaces 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). Technical Building Benchmarks cover projects let by MoD since 2003/04. The sample covers a range of generic types of technical accommodation. These accommodation types are Offices, Messing (kitchens, dining and function rooms etc.), Stores, Mechanical Transport Accommodation/Garages, Medical and Dental Accommodation and Education/Training Facilities. Total Target Price (contract award) and PFI (if applicable) derived benchmarks are expressed as unit rates based on Gross Internal Floor Area (GIFA) of the facility (£/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

Table 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 above)
Statistical population represented	The statistical samples represented by the data in Tables 10 to 13 are as follows: **SLA New Build:** • Ensuite Rooms – Flatlet format (38 Projects.) • Ensuite Rooms – Hotel format (18 Projects) • Dormitories – 12 Bed format (8 Projects) • Study Dormitories - 4 Bed format (10 Projects) • Senior NCO/Junior Officers (40 Projects) • Mixed Provision (31 Projects) • Senior Officers (1 Project The total value of the above Projects (without re-basing to 2009/10)) is approximately £1,236bn and represents the entire programme of new build Single Living Accommodation. 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 2011/12. • Airfield Pavements:	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 (14/15, 1 project) New Ancillary – 8 projects (12/13 4 projects) New Courts – 4 projects Prison: General Minor Refurbishment – 32 projects (14/15, 3 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. The population for 2014-15 is 90 schools

Table 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 above)
	• 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. **Mess Projects:** • Junior Ranks (21 Projects) • SNCO (8 Projects) • Officers' (3 Projects) • Combined (11 Projects) The total value of the above Projects (without re-basing to 2009/10) is approximately £310m. The 2009/10 baseline data includes projects from a wider population dating between 2003/04 and 2013/14. **Office Projects:** The total value of Office Projects (without re-basing to 2009/10) is approximately £133m. The 2009/10 baseline data includes projects from a wider population dating between 2004/05 and 2013/14. **Training Projects:** The total value of Training Projects (without re-basing to 2009/10) is approximately £128m. The 2009/10 baseline data includes projects from a wider population dating between 2003/04 and 2012/13. • Medical / Dental Projects: • Medical Only (6 Projects)		

Table 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 above)
	• Dental Only (1 Project) • Combined Medical and Dental (5 Projects) The total value of the above Projects (without re-basing to 2009/10) is approximately £51m. The 2009/10 baseline data includes projects from a wider population dating between 2006/07 and 2012/13. **Store Projects:** The total value of Store Projects (without re-basing to 2009/10) is approximately £63m. The 2009/10 baseline data includes projects from a wider population dating between 2003/04 and 2011/12. • Garage Projects: • Garaging (11 Projects) • Motor Transport Facility (4 Projects) The total value of the above Projects (without re-basing to 2009/10) is approximately £63m. The 2009/10 baseline data includes projects from a wider population dating between 2003/04 and 2011/12.		
What is included / excluded in the figures	Unless noted otherwise 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 Service Families Accommodation (SFA) are based on the same principles and also exclude the cost and area of garages. 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.

Table 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 above)
Where the data comes from	Data has been formulated by external Cost Consultants with technical support from quantity surveyors working for MoD's Defence Infrastructure Organisation.	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) 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'. 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'. 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.	**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 BCIS ALL-IN Tender Price Index.

Table 20: Commentary relating to Department Cost Benchmark Data Provided in Charts 20 to 30 and Tables 10 to 16			
General areas to be addressed by commentary	Ministry of Defence (with reference to Table 10 to 13 above)	Ministry of Justice (with reference to Table 14 above)	DfE/Education Funding Agency (with reference to Table 15 and 16 above)
	For Airfield Pavements the 2009/10 baseline represents Contract Award values of projects let between 2003/04 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'. For Technical Buildings, the 2009/10 baseline represents Contract Award values of projects let up to and including 2013/14, because of the low sample size. In order to increase the sample size and with the aim of improving confidence levels in the resultant benchmarks, statistics represent baseline data across a variety of procurement routes, with some data (procured through PFI) having required an element of alignment based on analysis of costs within the wider sample. 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 data is derived have been let under Prime Contracting using bespoke MoD Conditions of Contract. For Technical Buildings some data for projects procured through PFI have been included. 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 regional frameworks.

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[48].

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.

[48] *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 21: 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		2014/15	
				Single point average	Range Min - Max Percentile	Single point average	Range Min - Max Percentile	Single point average	Range Min - Max Percentile	Single point average	Range Min - Max Percentile	Single point average	Range Min - Max 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	0.7	0.7 0.7	No Jobs	No Jobs
		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	No Jobs	No Jobs	No Jobs	No Jobs
		Type 2: Escalator non-JLE Refurbishment (10-15m rise)	£m per machine	1.3	0.9 1.4	0.9	0.86 1.0	Insuff. data	Insuff. data	0.9	0.8 0.9	1	0.7 1.6
	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	2.1	1.1 4.7
		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	4.4	2.9 6.8
		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	1.5	1 5.8
	Earth structures	**Type 2:** Regrading Embankments and Cuttings	£k/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	0.28	0.05 0.88
	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	1.2	0.7 7.7

Chart 63: London Underground Track Renewal

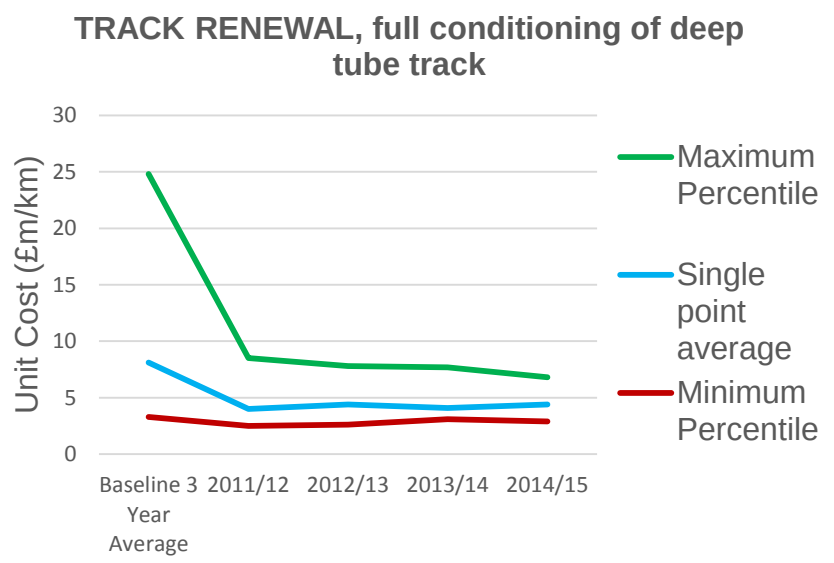
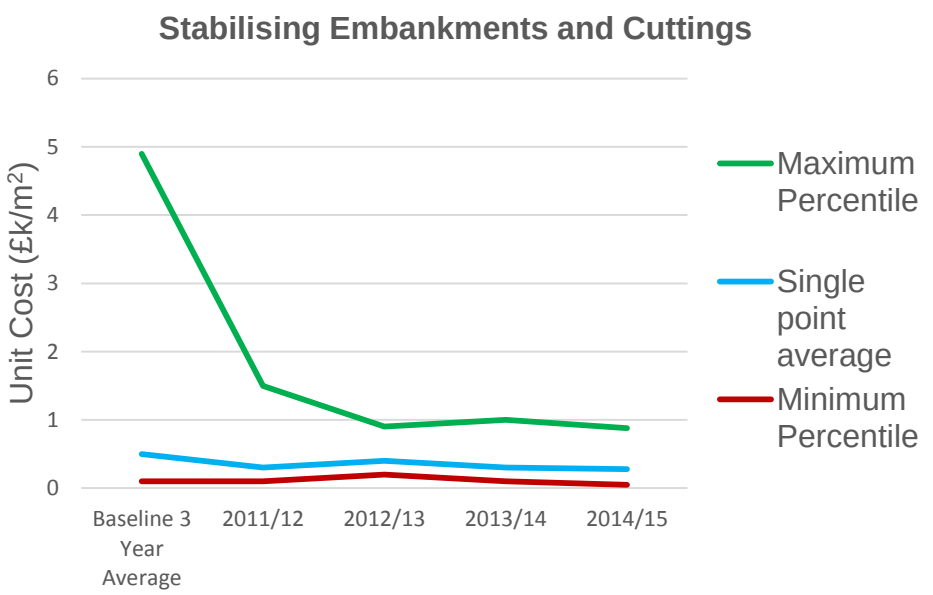


Chart 64: London Underground Stabilising Embankments and Cuttings



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.

Table 22: Construction Cost Benchmarks for Network Rail								
Project Types	Project Subtypes	Benchmarks	Units	2009/10	2010/11	2011/12	2012/13	2013/14[49]
All Capital Renewal Projects	N/A	**Type 2:** Real Economic Efficiency Measure (REEM)[50] for Renewals against a baseline position in 2008/09	%	7.1	16.6	17.7	14.8	15.3

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%202014.pdf

49 Note: The 15.5% that is referred to by ORR represents all efficiencies (opex, maintenance and renewals) and so is different to the 15.3% disclosed in the above table

50 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 2014: "While Network Rail has reported efficiencies of 15.5%, we have concerns about the exclusion of certain renewals spend (e.g. efficient overspend on renewals) and the quality of the reporting underpinning this calculation. It is our view that efficiency is likely to be at least 2% lower taking into account the exclusion of certain renewals, but we recognise this is a legitimate difference of view"

Table 23: Commentary relating to Cost Benchmark Data Provided in Tables 21 and 22		
General areas to be addressed by commentary	London Underground	Network Rail
What the data represents	74% of LU's spend is benchmarked. However, the information in Table 18 only represents key repeatable work items and hence only a small proportion of the overall capital programme. For 2014/15, the figures are based on Quarter 3 (December 2014) forecast and therefore represent a mix of actuals and forecast.	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 13/14 67% of renewals expenditure is represented by REEM.
What is included / excluded in the figures	Unit rates are calculated to defined data protocols which specify costs to be included and excluded in order to arrive at a fair comparison which excludes extraordinary costs such as aborted	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.

Table 23: Commentary relating to Cost Benchmark Data Provided in Tables 21 and 22		
General areas to be addressed by commentary	London Underground	Network Rail
	possessions or additional costs caused by the Olympic Games.	
Where the data comes from	The base financial data comes from LU's accounting systems with volume data from project planning systems. This data is used by TfL's Benchmarking Team to calculate the unit rates shown.	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 and after 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 24: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: New Build Primary Schools

GIFA (m²)	Gross Cost per m²	
	Average	20th Percentile
		80th Percentile
0 - 750	£2,962	£2,688
		£3,406
750 - 1,500	£2,438	£2,147
		£2,839
1,500 - 2,250	£2,566	£2,070
		£3,004
2,250 - 3,000	£2,443	£2,043
		£2,826
3,000 - 3,750	£2,343	£1,809
		£2,813
Whole New Build Sample	£2,531	£2,073
		£2,970

GIFA (m²)	Nett Cost per m²	
	Average	20th Percentile
		80th Percentile
0 - 750	£1,785	£1,474
		£2,030
750 - 1,500	£1,726	£1,488
		£1,947
1,500 - 2,250	£1,753	£1,556
		£1,991
2,250 - 3,000	£1,747	£1,597
		£1,958
3,000 - 3,750	£1,730	£1,458
		£2,024
Whole New Build Sample	£1,745	£1,549
		£1,995

Note: 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 m^2 – 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. All costs have been updated to the latest firm Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2014 of 244.

Table 25: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: New Build Primary Schools

GIFA (m²)	Cost Per Pupil Place		Sample Size
	Average	20th Percentile	
		80th Percentile	
0 - 750	£10,077	£6,920	8
		£11,480	
750 - 1,500	£14,686	£10,105	22
		£18,008	
1,500 - 2,250	£19,706	£10,893	15
		£22,794	
2,250 - 3,000	£17,163	£11,923	11
		£21,870	
3,000 - 3,750	£18,809	£16,298	5
		£22,729	
Whole New Build Sample	£16,101	£10,156	61
		£20,834	

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

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 Price (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. All costs have been updated to the latest firm Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2014 of 244. These figures are an average of the combined total cost of each sample category.

Table 26: National Delivery Cost Benchmarking (prepared by Hampshire CC and East Riding of Yorkshire Council):

Project Type: Refurbishment/Partial New Build Primary Schools

GIFA (m²)	Gross Cost per m²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile 80th Percentile	Average	20th Percentile 80th Percentile	
0 - 750	£2,414	£1,755 £3,007	£14,117	£7,652 £19,856	38
750 - 1,500	£1,805	£1,118 £1,965	£12,789	£11,785 £15,117	7
1,500 - 2,250	£1,471	£953 £1,985	£12,836	£10,227 £15,415	4
2,250 - 3,000	£1,301	£1,019 £1,524	£15,116	£6,528 £21,685	4
3,000 - 3,750	£1,465	£1,314 £1,610	£16,201	£9,719 £21,626	3
Whole Refurbishment Sample	£2,140	£1,437 £2,834	£14,042	£7,622 £19,105	56

Note: 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 m^2 – 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. All costs have been updated to the latest firm Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2014 of 244.

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 Price (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 27: Commentary relating to Primary and Secondary Schools Cost Benchmark Data provided in Tables 24 to 26	
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 common standard of cost analysis has been used to capture cost data, ensuring a high level of consistency across the sample, while including detailed cost and background information on each project – allowing the costs to be fully understood on an individual

	basis. The data has then been collated at a common price base, in order to compare projects with each other on level terms. The project sample used in this report comprises 122 projects from across England, consisting of: • 61 New build primary school projects. • 56 Refurbished/partial new build primary school projects. • 5 New build secondary school projects.
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).
How it has been calculated	All costs have been updated to the latest firm Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2014 of 244. All costs have been normalised to a common UK average price level using regional location factors published by BCIS to accord with the UK Mean 100.

PART 3: USE OF COST BENCHMARKS

DEPARTMENT PROGRESS IN GENERATING PUBLIC PRIVATE COMPARISONS

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

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

This section demonstrates only limited progress since last year on the work undertaken by Departments to compare their cost benchmarks with those of private construction clients, so over the tenure of the new GCS, we will seek to work with organisations such as the Building Cost Information Service (BCIS) to make anonymised public sector to private sector comparisons.

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;

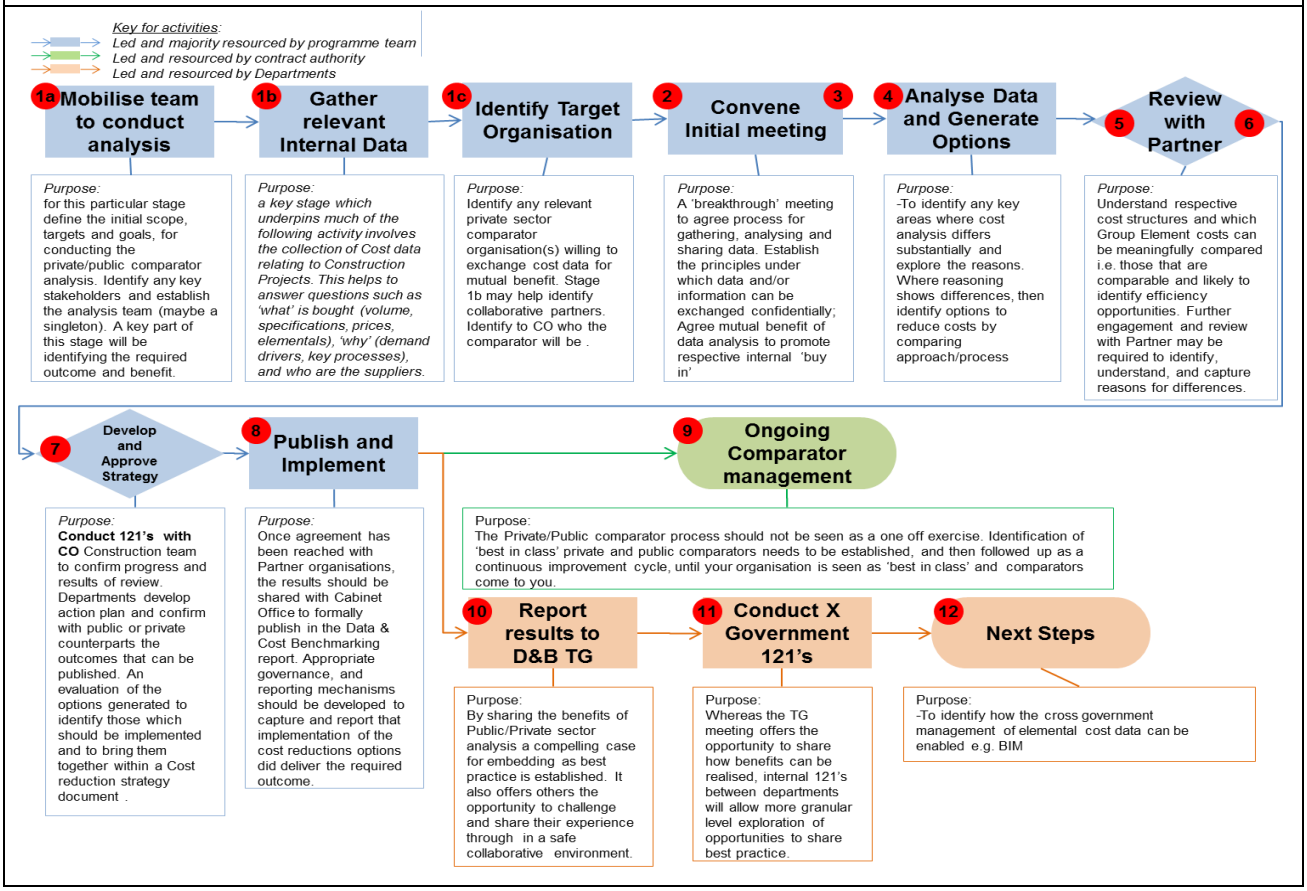
Step 6: Convene joint session(s) to analyse and draw conclusions from key differences and identify efficiency opportunities (BCIS to assist by providing independent validation of comparisons);

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: Private vs Public sector comparator



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 28: 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 for new build affordable housing. HCA has worked with BCIS to produce a study on the difference between the cost of construction for affordable housing and that for private housing. The key finding was 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 29: DEFRA / Environment Agency	
Step	Progress
1 -5	EA has established contact and shared data with the Local Government Association and Highways England. 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

Table 29: DEFRA / Environment Agency	
Step	Progress
	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 England, 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 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 England 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 England 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.
Next Steps	With the longer term settlement there is much more scope for the EA to work with other infrastructure partners to align programmes for efficient delivery. To date we have shared our 6 year capital programme detail with Highways England, HS2 and Network Rail to look for opportunities. Already working with HS2 there are over 30 EA schemes identified where we are exploring re-use of excavated material as a free source of clay for flood embankments.

Table 30: 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 in identifying a comparable project.
Next Steps	Due to difficulties in developing a private sector collaborator, no further comparisons are expected.

Table 31: 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: • Cost comparisons were made with hotels, offices, housing and local administration buildings, drawing on sample sizes ranging from 8 hotels up to 67 offices. • A further analysis compared various types of schools ranging from Secondary, 6th form, special, middle and BSF schools. • 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 32: DfT / Highways England-MP	
Step	Progress
1 - 6	HE has established an efficiency review group and process to facilitate the sharing of knowledge and best practice across the portfolio of schemes bringing together HE project managers and the supply chain to drive through savings. This captures a variety of suppliers through more traditional to PFI contracts and enables HE – 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. • An exercise is underway with EA to overlay HE 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 HE 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 HE 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 England has expressed interest in learning from this experience and EA will therefore share further details at subsequent meetings.

Table 33: 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 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. MoD have liaised with Homes and Communities Agency regarding housing costs and they provided MoD with an analysis of their 'Affordable Homes Programme'. This comprised of schemes that had reached grant confirmation stage. MoD decided to only analyses projects undertaken since 2005 and housing built before this was considered too distant to provide data that could be meaningfully indexed. MoD also excluded 'Outliers' to avoid skewing of the analysis, in particular small schemes (<10 homes) and those with small or minimal acquisition costs e.g. land given at nil or low cost. The result enabled MoD to analyse 16,344 homes constructed since 2005 which were used in undertaking the analysis of Services Families Accommodation purchased via Open Market Acquisition.
6 - 8	The analysis of Airfield cost data 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 34: 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 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 35: 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.

TECHNICAL ANNEXES

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

.Table 36: 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		2014/15	
				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
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	1,571	1,294 2,068
	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	1,532	1,281 1,868
	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	1,553	1,287 2,027
	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	1,979	Insuff. data
	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	116,321	92,170 146,381
			£/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	32,111	25,480 45,816
	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	114,284	96,797 142,698
			£/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	29,896	25,243 37,933
	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	116,039	92,091 146,381
			£/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	31,495	24,961 45,243
	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	121,494	Insuff. data
			£/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	48,974	Insuff. data

Table 37: 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		2013/14		2014/15	
				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
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	1,319	1,105 1,534	1,422	1,139 1,621
	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	1,271	1,059 1,513	1,310	1,099 1,411
	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	1,244	1,097 1,452	1,297	1,132 1,532
	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	1,855	1,546 2,515	1,939	1,546 2,654
	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	92,046	79,567 107,850	93,240	75,429 109,095
			£/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	25,719	19,925 31,744	28,456	20,720- 35,550
	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	95,905	80,713 113,617	97,160	81,555- 107,405
			£/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	23,591	19,122 28,563	24,622	19,706 26,160
	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	91,556	79,568 107,364	88,847	76,250 107,905
			£/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	23,620	19,892 29,552	24,884	20,533 31,297
	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	94,469	73,757 114,622	107,994	73,771 120,262
			£/person housed	49,162	32,120 76,433	44,890	32,895 53,182	44,976	Insuff. data	46,219	33,923 67,349	44,749	34,084 70,463	47,157	34,472 81,827

Table 38: 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		2014/15	
				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
New Build	House/flat for rent	Type 1: Total construction cost	£/m^2	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	1,378	1,169 1,548
	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	1,319	1,094 1,526
	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	1,264	1,145 1,526
	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	1,749	1,454 2,020
	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	98,366	84,333 111,067
			£/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	26,906	21,873 32,500
	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	93,939	88,243 103,000
			£/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	26,605	20,590 33,281
	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	94,804	84,259 111,067
			£/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	23,837	21,180 31,038
	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	107,859	86,525 124,021
			£/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	38,521	30,295 54,387

Table 39: 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		2014/15	
				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
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	1,248	1,123 1,511
	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	1,215	1,162 1,329
	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	1,230	1,121 1,499
	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	1,675	Insuff. data
	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	87,945	78,245 103,389
			£/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	23,968	19,907 32,064
	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	96,604	84,844 113,101
			£/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	21,477	19,815 25,768
	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	87,684	78,245 103,389
			£/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	23,389	19,902 31,546
	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	92,689	Insuff. data
			£/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	41,786	Insuff. data

Table 40: 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		2014/15	
				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
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	1,520	1,193 1,719
	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	1,499	1,166 1,693
	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	1,497	1,193 1,677
	House/flat for rent: Supported Housing			2,159	1,694 2,512	1,891	1,508 2,091	1,720	Insuff. data	1,768	Insuff. data	2,059	1,720 2,259	1,902	Insuff. data
	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	110,626	87,268 131,396
			£/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	30,160	22,200 36,514
	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	112,408	94,538 126,384
			£/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	28,456	21,640 31,593
	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	110,098	87,268 131,396
			£/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	29,265	22,160 35,836
	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	117,770	Insuff. data
			£/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	49,159	Insuff. data

.

ANNEX B: COST COMPONENTS INCLUDED WITHIN DEPARTMENT COST BENCHMARKS

Table 41: 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 6)	DCLG/HCA New Build (Reference Table 9 and Annex A)	DCLG/HCA Refurbishment (Reference Table 9 and Annex A)	MOD (Reference Table 10 and Annex A)	Typically included in MoJ benchmarks (Reference Table 14)	Typically included in DfE / EFA benchmarks (Reference Table 15)	National Schools Delivery Cost Benchmarking (Reference Table 24 to 26)
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
05.10	Lift and conveyor installations	Y	Y	N	Y	N	Y	Y

Table 41: 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 6)	DCLG/HCA New Build (Reference Table 9 and Annex A)	DCLG/HCA Refurbishment (Reference Table 9 and Annex A)	MOD (Reference Table 10 and Annex A)	Typically included in MoJ benchmarks (Reference Table 14)	Typically included in DfE / EFA benchmarks (Reference Table 15)	National Schools Delivery Cost Benchmarking (Reference Table 24 to 26)
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
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

Table 41: 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 6)	DCLG/HCA New Build (Reference Table 9 and Annex A)	DCLG/HCA Refurbishment (Reference Table 9 and Annex A)	MOD (Reference Table 10 and Annex A)	Typically included in MoJ benchmarks (Reference Table 14)	Typically included in DfE / EFA benchmarks (Reference Table 15)	National Schools Delivery Cost Benchmarking (Reference Table 24 to 26)
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 3 onwards.								

Table 42: Cost Components included within Department Cost Benchmarks for EA	
Cost Components	Typically included in EA Type 1 benchmarks (Reference Table 7)
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; Temporary works such as access tracks, pumping, cofferdams, river diversions where appropriate; 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 43: Cost Components included within Department Cost Benchmarks for HE

Work Breakdown Structure (WBS) v5.2 Sector by Bill of Qantities (BoQ) Layout		0100 Project Overheads	0150 Indirect Works Costs	0200 Site Clearance	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	1500 Motorways Communications and Technology	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	2700 Accommodation Works, Works for Statutory Undertakers, Provisional Sums and Prime Cost Items	3000 Landscape & Ecology	5000 Maintenance Painting Of Existing Steelwork
WBS Sector	**BoQ**																									
Preliminaries	Preliminaries	✓	✓																							
General / Enabling Works	General / Enabling Works			✓	✓																			✓	✓	
Roadworks	Main Carriageway				✓	✓	✓	✓	✓	✓	✓	✓	✓														
	Central Reserve				✓	✓	✓	✓	✓	✓	✓	✓	✓														
	Emergency Refuge Area (ERA)				✓	✓	✓	✓	✓	✓	✓	✓	✓														
	Interchanges				✓	✓	✓	✓	✓	✓	✓	✓	✓														
	Side Roads				✓	✓	✓	✓	✓	✓	✓	✓	✓														
Technology	Technology													✓													
Structures	Overbridges				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Underbridges				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Footbridges				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Gantries – single				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Gantries – superspan				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Boxed culverts				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	MS Cantilever (including retaining wall)				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Modification of existing structures				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
	Miscellaneous Structures				✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Retaining Walls	Main Carriageway Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					
	Emergency Refuge Area Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					
	Interchanges Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					
	Side Roads Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					
	Gantries – single Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					
	Gantries – superspan Retaining Walls				✓	✓	✓	✓							✓	✓	✓	✓	✓		✓	✓					

Table 44: 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 12)
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

Table 44: 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 12)
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)

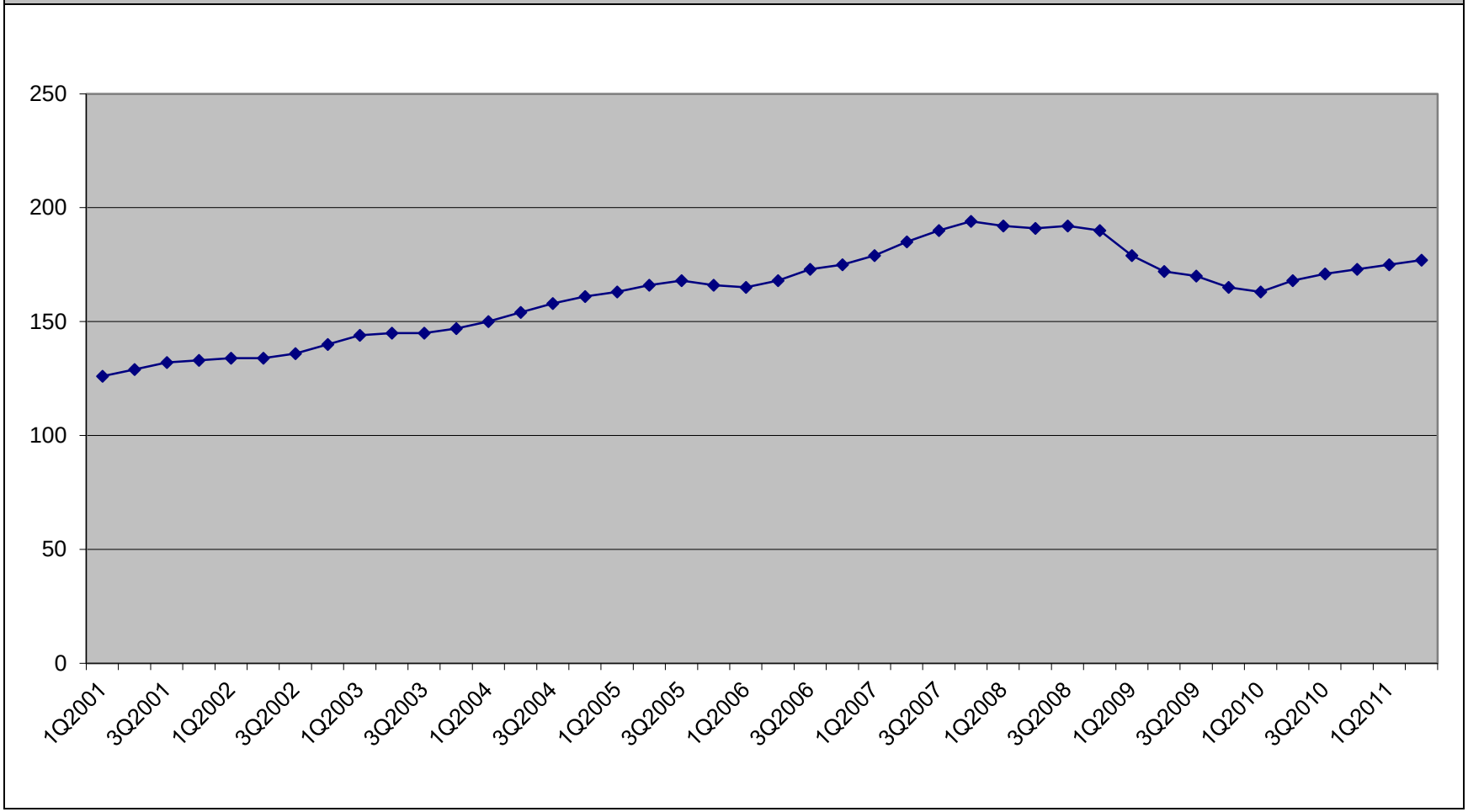
Section 3: Background to the method

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 65: 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:

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

<table>
<tr><th>Dept/ 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.</td><td>2014/15 projects have 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 2014/15, these adjustments range from 0.88 to 0.99 i.e. cost benchmarks in 2014/15 prices have been multiplied by these factors to translate them into equivalent 2009/10 prices.

Benchmarks reported for 2010/11 to 2014/15 have therefore been deflated as follows:

<table>
<tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></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><td>198 to 206</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><td>0.88 to 0.99</td></tr>
</table>
</td></tr>
</table>

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Dept/ 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>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:

<table>
<tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></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><td>117.5</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><td>0.97</td></tr>
</table>
</td></tr>
<tr><td>DfT / HE</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</td><td>Cost benchmarks have been reported on the basis of the 2009/10 baseline.

2010/11, 2011/12, 2012/13, 2013/14, and 2014/15 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.</td></tr>
</table>

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

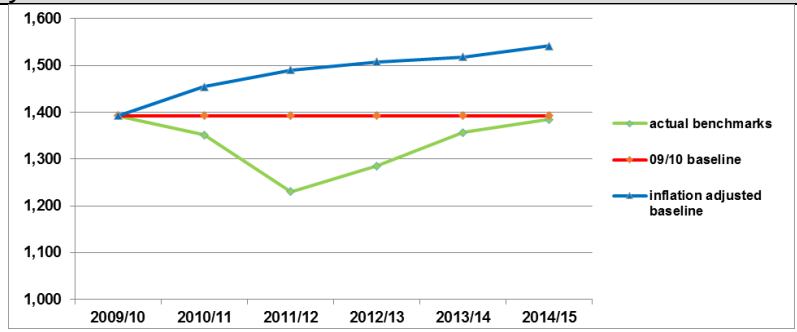
<table>
<tr><th>Dept/ Organisation</th><th>Inflation adjustments made in reporting annual cost reductions</th><th>Inflation adjustments made in reporting cost benchmarks year to year</th></tr>
<tr><td></td><td>commercial negotiating process which drives lower unit rates across the work breakdown structure.

<table><tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr><tr><td>Index</td><td>152</td><td>151</td><td>157</td><td>159</td><td>162</td><td>196</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><td>0.77</td></tr></table></td><td><table><tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr><tr><td>Index</td><td>152</td><td>151</td><td>157</td><td>159</td><td>162</td><td>196</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><td>0.77</td></tr></table>

No adjustment has been made for location factors.</td></tr>
<tr><td>DCLG / HCA</td><td>Cost reductions for each year have been reported on the basis of 2009/10 constant prices, with an inflation adjustment applied using the Building Cost Information Service (BCIS) General Construction Cost Index for March each year as follows:

<table><tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr><tr><td>Index</td><td>290.3</td><td>303.2</td><td>310.5</td><td>314.2</td><td>316.3</td><td>321.3</td></tr><tr><td>Inflator</td><td>1.00</td><td>1.04</td><td>1.07</td><td>1.08</td><td>1.09</td><td>1.11</td></tr></table></td><td>Cost benchmarks have been reported on the basis of current prices for the relevant year. The table and chart below show the comparison of the 2009/10 benchmark with the actual average costs and the inflation adjusted baseline.

<table><tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr><tr><td>09/10 baseline</td><td>1,393</td><td>1,393</td><td>1,393</td><td>1,393</td><td>1,393</td><td>1,393</td></tr><tr><td>Actual benchmarks</td><td>1,393</td><td>1,352</td><td>1,230</td><td>1,285</td><td>1,357</td><td>1,385</td></tr><tr><td>Inflation adjusted baseline</td><td>1,393</td><td>1,455</td><td>1,490</td><td>1,508</td><td>1,518</td><td>1,542</td></tr></table></td></tr>
</table>

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year		
Dept/ Organisation	Inflation adjustments made in reporting annual cost reductions	Inflation adjustments made in reporting cost benchmarks year to year
		
MoD	Cost reductions have been reported on the basis of 2014/15 prices using the BIS PUBSEC Tender Price Index of Public Sector Non Housing (PUBSEC 173)[51]. 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 2014/15 the Q4 2014 index of 209 was used.	Cost benchmarks have been reported on the basis of constant 2009/10 prices. 2014/15 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 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

[51] In December 2014, the Department for Business, Innovation and Skills (BIS) announced the cessation of its publication of Construction Price and Cost Indices (CPCIs). The MoD currently uses the BIS PUBSEC Non Housing indices for the majority of its benchmarks and cost reductions and it is proposed that MoD will convert all future benchmarks and cost reductions to the BCIS All-in Tender Price Index

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Dept/ 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 2009/10 baseline has therefore been adjusted as follows:
<table>
<tr><td></td><td>2009/10</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>167.5</td><td>173</td><td>184</td><td>209</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.03</td><td>1.10</td><td>1.25</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 2014/15 the Q4 2014 index of 255 was used.
</td><td>
index of 167.5. For 2014/15 the Q4 2014 index of 209 was used.

Benchmarks reported for 2010/11, 2011/12, 2012/13 and 2014/15 have therefore been deflated as follows:
<table>
<tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>167.5</td><td>171.5</td><td>176.5</td><td>173</td><td>184</td><td>209</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><td>0.80</td></tr>
</table>
Locations have been normalised to a UK mean location (base = 100).

For SFA projects 2014/15 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 2014/15 the Q4 2014 index of 255 was used.
</td></tr>
</table>

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

<table>
<tr><th>Dept/ 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><td></td><td>2009/10</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>214</td><td>239</td><td>255</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.12</td><td>1.19</td></tr>
</table>
</td><td>Benchmarks reported for 2010/11, 2011/12 and 2012/13 have therefore been deflated as follows:
<table>
<tr><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>214</td><td>221.5</td><td>222.5</td><td>235.5</td><td>239</td><td>255</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><td>0.84</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><td></td><td>2009/10</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>216</td><td>228</td><td>235</td><td>248</td></tr>
<tr><td>Inflator</td><td>1.00</td><td>1.06</td><td>1.09</td><td>1.15</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><td></td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td><td>2014/15</td></tr>
<tr><td>Index</td><td>216</td><td>220</td><td>226</td><td>228</td><td>235</td><td>248</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><td>0.87</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th colspan="3">Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year</th></tr>
<tr><th>Dept/ 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>Location factors are not used on MOJ projects.</td></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 BCIS ALL-IN Tender Price Index.</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><td>Year</td><td>2009/10</td><td>2010/11</td><td>2011/12</td><td>2012/13</td><td>2013/14</td></tr><tr><td>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. All costs have been updated to the latest firm Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2014 of 244.</td></tr>
</table>

Table 45: Explanation of inflation adjustments made by each department in reporting annual cost reductions and cost benchmarks year to year

Dept/ Organisation	Inflation adjustments made in reporting annual cost reductions	Inflation adjustments made in reporting cost benchmarks year to year

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Index	209 to 216	218 to 220	218 to 223	217	183-188	244
Inflator	1.00 to 1.04	0.99 to 1.00	0.97 to 1.00	1.00	1.00	1.00

ANNEX D: GLOSSARY OF TERMS

Term used	Expanded Term	Explanation
BCIS	Building Cost Information Service	An independent service provided by the Royal Institute of Chartered Surveyors and is a leading provider of cost and price information to the construction industry and anyone else who needs comprehensive, accurate and independent data.
CCA	Chief Construction Adviser	The role of Chief Construction Adviser was created in 2009 to provide cross-departmental coordination and leadership on UK construction industry policy and provide an interface between Industry and government, and oversee delivery of the Government Construction Strategy.
DCLG/HCA	Department for Communities and Local	HCA is an executive non-departmental public body, sponsored by the DCLG. The Homes and Communities Agency (HCA) helps create successful communities by making more homes and business

	Government/Homes and Communities Agency	premises available to the residents and businesses who need them. They also regulate social housing providers in England.
DEFRA/EA	Department for Environment Food and Rural Affairs /Environment Agency	EA is an executive non-departmental public body, sponsored by the DEFRA. They work to create better places for people and wildlife, and support sustainable development including the construction of Flood Defences.
DfE/EfA	Department for Education/Education Funding Agency	EFA is an executive agency, sponsored by the DfE. They manage £54 billion of funding a year to support all state-provided education for 8 million children aged 3 to 16, and 1.6 million young people aged 16 to 19, including the building and refurbishment of Schools.
DfT/HE	Department for Transport/Highways England	Highways England operates, maintains and improves England's motorways and major A roads.
DoH	Department of Health	The Department of Health (DH) helps people to live better for longer. We lead, shape and fund health and care in England, making sure people have the support, care and treatment they need, with the compassion, respect and dignity they deserve, and includes the construction of estate to support this activity.

GCS	Government Construction Strategy	The strategy developed by the Cabinet Office Construction team, and led by the Chief Construction Adviser, and launched in 2011 to deliver sustainable cost reductions over the life of parliament.
GCB	Government Construction Board	The governance structure set up and chaired by the CCA, and made up of the core high spend construction departments, to implement the recommendations from the GCS
GIFA	Gross Internal Floor Area	A specific method for ensuring internal floor areas of buildings are measured consistently
PUBSEC TPI	Public Sector Tender Price Indices	Refer to Annex C on how departments utilise these Indices
MoD/DIO	Ministry of Defence/Defence Infrastructure Organisation	The DIO plays a vital role in supporting the MoD by building, maintaining and servicing the infrastructure needed to support defence.
MoJ	Ministry of Justice	MoJ work to protect the public and reduce reoffending, and to provide a more effective, transparent and responsive criminal justice system for victims and the public, including constructing the state that delivers this activity.

NEC	New Engineering Contract	One of a number of Forms of Contract used by the public sector to award construction contracts.
P10/P50/P90	3 point estimates modelled to produce minimum, most likely and maximum forecasts.	Highways England equivalent to the 80th/SPA/20th percentiles used in other departmental charts and tables. Setting a forecast on the basis of a P90 result would indicate a larger contingency than one based on a P50 result.

ANNEX E: ACKNOWLEDGEMENTS

The Cabinet Office Construction team would like to thank all of those departments and organisations who have provided the time and resources to contribute to this document, and with special thanks to the individuals as follows:

David Low – Department of Health

Graeme Hough – DCLG, Homes and Communities Agency

Graham Mason – Ministry of Justice

Hans Ram – Department for Transport, Highways England

Hannah Vickers – DEFRA, Environment Agency

Nigel Miller – Ministry of Defence, Defence Infrastructure Organisation

Jon Bailey – Ministry of Defence, Defence Infrastructure Organisation

Adam Bray – Department for Education, Education Funding Agency

Dave Bird – London Underground Ltd

Liam Rattigan – Network Rail

Matt Robertson – Hampshire County Council

David Corcoran – Hampshire County Council

This document is available in large print, audio and braille on request. Please call +44 (0)207 000 0000 or email enquiries@department.gsi.gov.uk

Cabinet Office
70 Whitehall
London
SW1A 2AS
www.cabinetoffice.gov.uk

Any enquiries regarding this publication should be sent to us at: governmentconstructionteam@cabinetoffice.gov.uk

This publication is available for download at www.official-documents.gov.uk

This document is also available from our website at https://www.gov.uk/government/collections/construction-cost-benchmark-data