



National School Delivery Cost Benchmarking

Primary, Secondary & SEN Schools

A national cost benchmarking study undertaken by Hampshire County Council in conjunction with East Riding of Yorkshire Council and the Department for Education

Supported By



Infrastructure
and Projects
Authority

June 2019

Version 6

Mill Chase Secondary School Academy, Hampshire County Council



EBDOG

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This publication is split into five distinct sections, namely; report context, primary schools, secondary schools, SEN schools and further information. These sections are shown below along with their key outputs.

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Wyton Primary School, Cambridgeshire County Council

845 projects submitted

This document 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, extended and refurbished primary, secondary and SEN schools.

This report provides a useful reference point for Local Authorities when establishing their school building costs. As part of the initiative the Local Government Association (LGA) is seeking to encourage greater collaboration between Local Authorities to drive down new and refurbished school costs. A benchmarking workshop was held on 6 October 2017 to discuss the output of the 2017 study and the presentation of information included and analysed in that report. As a result some additional features have been included this time. It is also intended to further develop the data following the workshop and publish any additional findings.

The findings contained within this report have been shared with the Infrastructure and Projects Authority (IPA) which is part of the Cabinet Office, and Department for Education (DfE). This report is the seventh publication produced for the public sector and is a valuable tool to understand the total costs associated with providing new school places across the country.

This study has been undertaken with funding from the LGA and has been conducted in conjunction with the following organisations:

- ◆ Education Building and Development Officers Group (EBDOG).
- ◆ National Association of Construction Frameworks (NACF).

The project sample used in this report comprises 819 projects from across England, consisting of:

- ◆ 601 primary school projects
- ◆ 159 secondary school projects
- ◆ 10 All-Through school projects
- ◆ 49 SEN school projects
- ◆ 26 projects not used (due to poor or inconsistent data)

Common Standard

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 project basis. The data has then been collated at a common price base,

The following criteria were used to select projects for this study:

- Primary, secondary or SEN school projects.
- Permanent new build, extended or refurbished school projects.
- Contract formed since 2012.

Full details of how the data has been adjusted can be found on page 31.

Industry Summary

Recent commentary from the Royal Institution of Chartered Surveyors (RICS) Building Cost Information Service (BCIS) are predicting a 29% rise in construction costs over the next 5 years. A modest growth in work output this year and output picking up in 2020, in the next 5 years new work output is expected to rise by 23%.

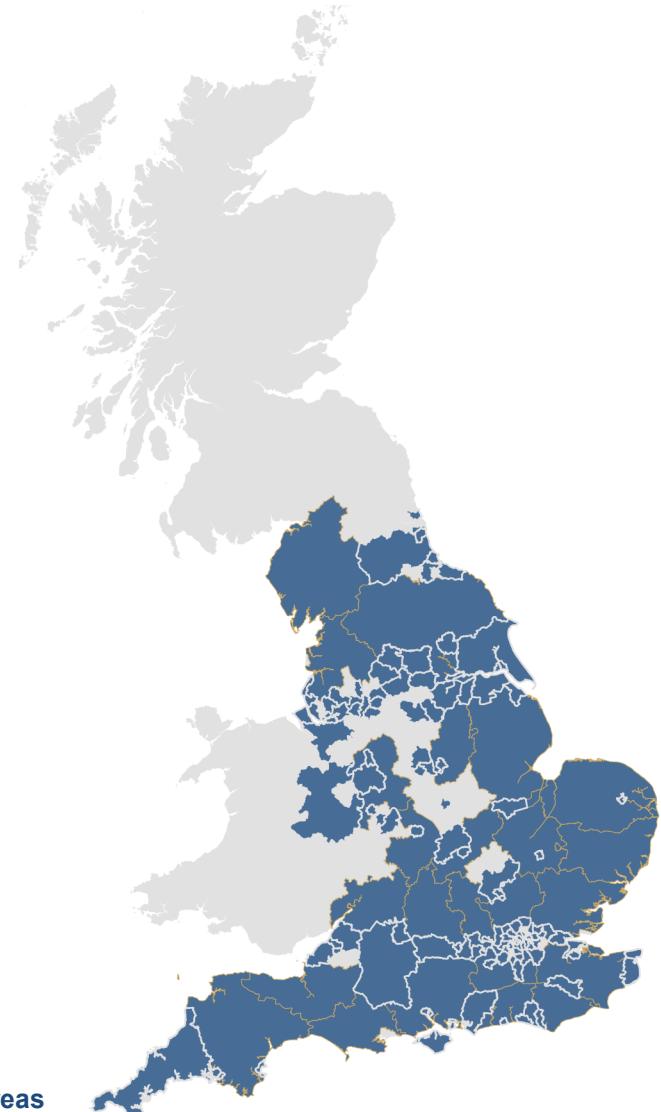
335,000
school places
£4.96 billion
combined project capital value

We are grateful to all Local Authorities who have contributed projects to this study. In addition to data submitted directly from authorities, we are also grateful to have received a new sample from the Department for Education (DfE) of DfE capital programme schemes. The list below shows the areas covered by the study.

Amber Valley Borough Council
 Birmingham City Council
 Bracknell Forest Council
 Bradford Metropolitan District Council
 Brighton and Hove City Council
 Bristol City Council
 Buckinghamshire County Council
 Bury Metropolitan Borough Council
 Calderdale Metropolitan Borough Council
 Cambridge City Council
 Cambridgeshire County Council
 Central Bedfordshire Council
 Cheshire West and Chester Council
 Chichester District Council
 City of York Council
 Cornwall Council (Unitary)
 Coventry City Council
 Cumbria County Council
 Daventry District Council
 Derby City Council
 Devon County Council
 Doncaster Metropolitan Borough Council
 Dorset County Council
 Dover District Council
 Durham County Council
 East Riding of Yorkshire Council
 East Sussex County Council
 Elmbridge Borough Council
 Epsom and Ewell Borough Council
 Erewash Borough Council
 Essex County Council
 Gateshead Metropolitan Borough Council
 Gloucestershire County Council
 Halton Borough Council
 Hampshire County Council
 Hartlepool Borough Council
 Hertfordshire County Council
 Isle of Wight Council
 Kent County Council
 Kingston-Upon-Hull City Council
 Kirklees Council
 Lancashire County Council
 Leeds City Council
 Leicester City Council
 Lewes District Council
 Lincolnshire County Council
 Liverpool City Council
 London Borough of Barking and Dagenham
 London Borough of Barnet

London Borough of Brent
 London Borough of Bromley
 London Borough of Camden
 London Borough of Croydon
 London Borough of Ealing
 London Borough of Enfield
 London Borough of Hammersmith & Fulham
 London Borough of Harrow
 London Borough of Havering
 London Borough of Hillingdon
 London Borough of Hounslow
 London Borough of Islington
 London Borough of Kensington and Chelsea
 London Borough of Lambeth
 London Borough of Lewisham
 London Borough of Merton
 London Borough of Newham
 London Borough of Redbridge
 London Borough of Richmond upon Thames
 London Borough of Southwark
 London Borough of Sutton
 London Borough of Tower Hamlets
 London Borough of Waltham Forest
 London Borough of Wandsworth
 London Borough of Westminster
 Luton Borough Council
 Manchester City Council
 Medway Council
 Norfolk County Council
 North East Lincolnshire Council
 North Lincolnshire Council
 North Somerset Council
 North Tyneside Metropolitan Borough Council
 North Yorkshire County Council
 Northampton Borough Council
 Northamptonshire County Council
 Northumberland Council Unitary
 Norwich City Council
 Nottingham City Council
 Nottinghamshire County Council
 Oldham Metropolitan Borough Council
 Oxfordshire County Council
 Peterborough City Council
 Plymouth City Council
 Portsmouth City Council
 Reading Borough Council
 Redcar and Cleveland Council
 Reigate and Banstead Borough Council
 Rotherham Metropolitan Borough Council

Royal Borough of Greenwich
 Royal Borough of Kensington and Chelsea
 Royal Borough of Windsor and Maidenhead
 Salford City Council
 Sandwell Metropolitan Borough Council
 Sefton Metropolitan Borough Council
 Sheffield City Council
 Shropshire Council (Unitary)
 Slough Borough Council
 Somerset County Council
 South Gloucestershire Council
 Southampton City Council
 Spelthorne Borough Council
 St Helens Metropolitan Borough Council
 Stafford Borough Council
 Staffordshire County Council
 Stockport Metropolitan Borough Council
 Stockton-on-Tees Borough Council
 Stoke-on-Trent City Council
 Suffolk County Council
 Sunderland City Council
 Surrey County Council
 Swindon Borough Council
 Tameside Metropolitan Borough Council
 Thanet District Council
 Thurrock Council
 Torbay Council
 Trafford Metropolitan Borough Council
 Tunbridge Wells Borough Council
 Wakefield Metropolitan District Council
 Warrington Borough Council
 Warwickshire County Council
 West Berkshire Council
 West Sussex County Council
 Wigan Metropolitan Borough Council
 Wiltshire Council (Unitary)
 Windsor and Maidenhead Council
 Wirral Council
 Woking Borough Council
 Wokingham Borough Council
 Wolverhampton City Council
 Worthing Borough Council



140 Local Authority Areas
covered across England

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Part Two Primary Schools



Civitas Academy, Reading Borough Council

The primary school sample consists of 601 projects which are split into three school categories as shown in the pie chart (right). This sample features projects from 2012 to 2019 with a total combined capital value of £2.25 billion, comprising:

- ◆ 84 New Development projects
- ◆ 454 Re-Build & Extension projects
- ◆ 63 Refurbishment projects

601

primary schools

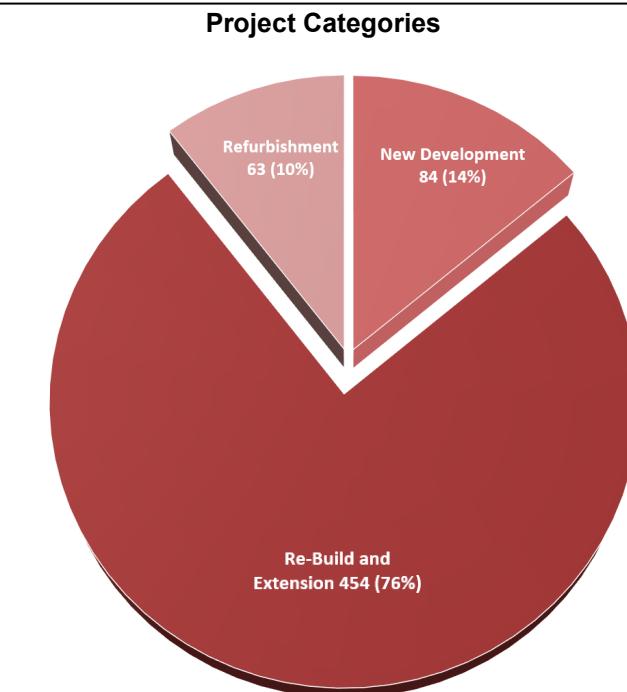
The majority of the primary school sample consists of Re-Build & Extension projects, continuing the trend that Local Authorities are expanding existing school sites to meet the increasing demand for pupil places. However, New Development projects on greenfield sites have seen a 19% increase in number since the last report. This rise tends to reflect the growth in new school places associated with major developments and reduced viability of providing new school places on existing sites.

The majority of schemes are procured via framework arrangements either at a national, regional or local level. It has not been possible to draw sufficient trends relating to the cost benefits of these different procurement routes due to the significant variations in the framework arrangements.

Over the next pages further commentary is provided for each project category which details cost variations and observations on drivers for costs between projects.

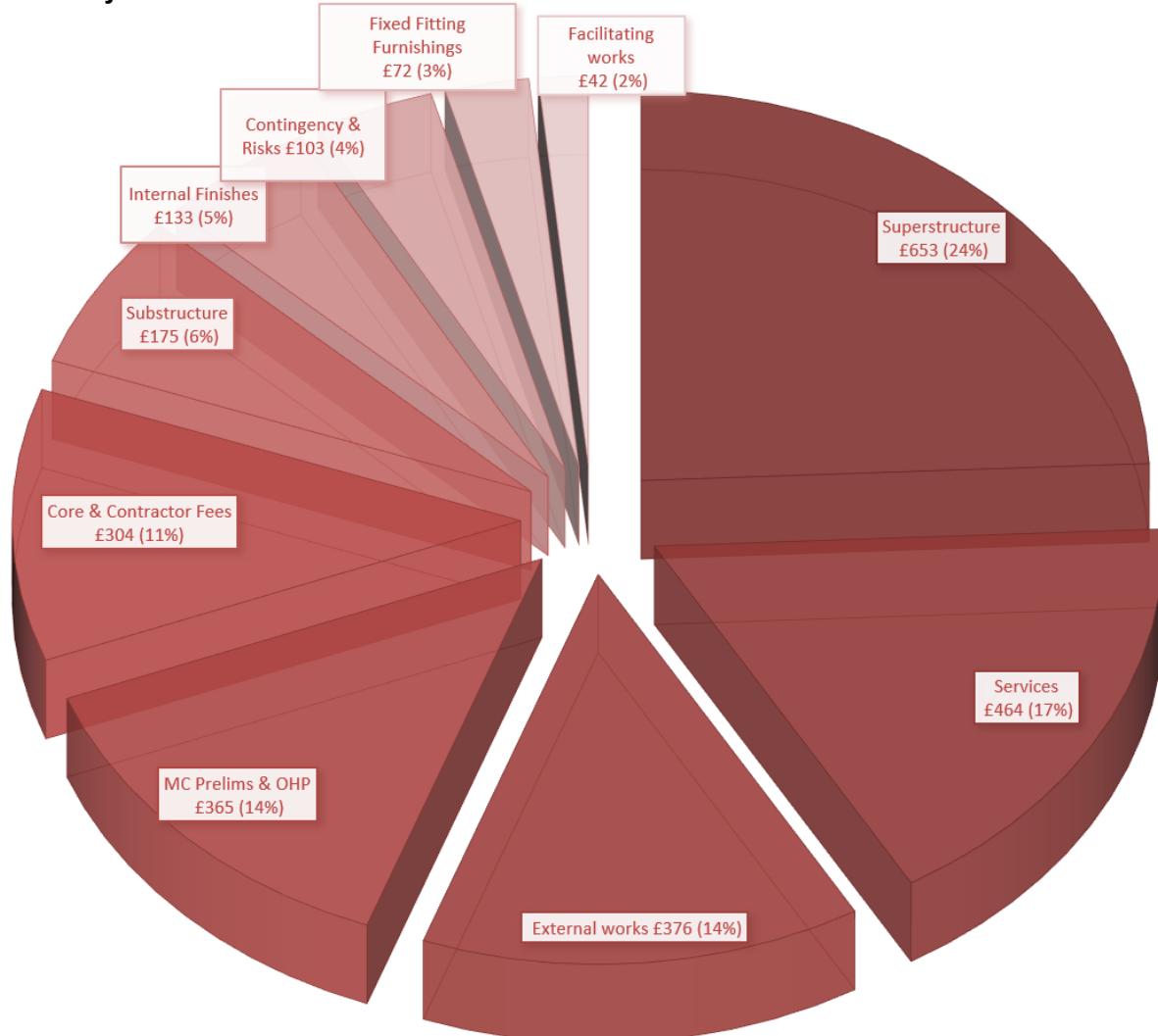
160,000

£2.25 billion



New Development Primary Schools

Gross and nett rates plus average elemental cost breakdown have been provided this year for new build developments. This provides a cost per m² of the main building elements and the percentage of the cost each element represents drawn from the entire whole sample.

Average Elemental Costs per m² for Primary Schools

Primary school gross costs as a whole sample have decreased by 6.16% since 2012, after indexing. The sample size of 2017 projects has increased from the 2019 data capture giving more confidence to the figures. The graph indicates that 2014 and 2015 represented the lowest point of the gross costs trends which has since increased to a high point in 2016 before dropping back in 2017 and 2018. There are a number of reasons for the fluctuations evidenced in the cost trajectory over the last six years (Graph 1, right) which are outlined below.

New Development

Projects built on greenfield sites with 100% of the works being new build saw a steady reduction in gross costs from 2012 to 2018, although there was a spike in costs in 2016. The costs for 2018 are now back to the similar levels achieved in 2014/15. Overall in the last six years costs have reduced by 11%. The positive trend indicated is likely to be as a result of the adoption of a standardised approach to design; more delivery through collaborative arrangements and adopting a more cost driven approach.

In 2016 the new build gross cost rose which is considered to be a reflection of the market conditions, Brexit and the impact of the increase in housing output on prevailing prices.

The costs dropped between 2016 and 2017 by 23% and then rose by 14.94% between 2017 and 2018, whilst the equivalent cost adjustment across the whole sample was only 5% and 0.23% respectively. The overall cost trajectory from 2015 until 2018 is 5%.

Re-Build & Extension

Extensions to existing school buildings, new teaching blocks and re-built schools on existing sites have seen a downward trajectory for cost, albeit with a spike in 2016 much as can be seen with the New Development costs. A number of factors influence this trend (N.B. page 10 dataset used as comparator).

Refurbishment

Due to the varying nature of refurbishment projects it is difficult to draw conclusive results from the cost trajectory. Due to a small sample size in 2016, there is a lower level of confidence in the data.

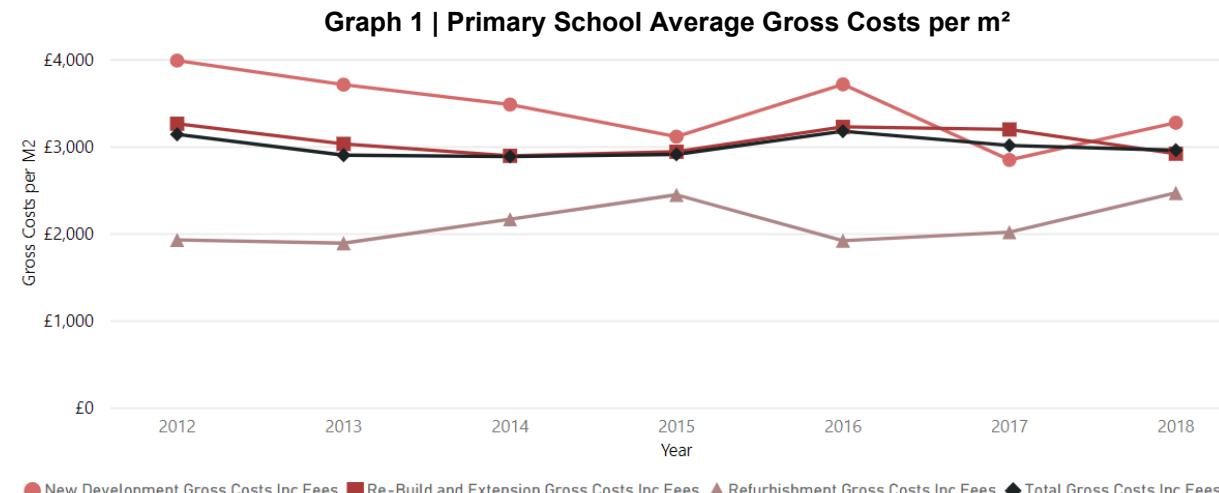


Figure 1 | Primary School Gross Costs per m²

Year	New Development		Re-Build & Extension		Refurbishment		Whole Sample	
	Gross Cost	Sample Size	Gross Cost	Sample Size	Gross Cost	Sample Size	Gross Cost	Sample Size
2012	£3,992	3	£3,268	29	£1,932	5	£3,146	37
2013	£3,716	6	£3,036	72	£1,896	14	£2,907	92
2014	£3,488	13	£2,899	112	£2,171	12	£2,891	137
2015	£3,118	19	£2,946	103	£2,452	15	£2,916	137
2016	£3,720	14	£3,231	76	£1,924	9	£3,181	99
2017	£2,852	20	£3,243	37	£2,022	4	£3,018	61
2018	£3,278	9	£2,888	20	£2,473	4	£3,025	33

Re-Build & Extension projects are formed from a combination of new blocks, extensions to existing schools and re-build projects on the existing site. The sample used for comparing Local Authority with DfE procured schemes has been restricted to projects with a GIFA of over 750m² as none of the DfE projects are less than 1FE within the sample.

Graph 2 (right) displays a cost trajectory for the DfE projects alongside those from Local Authorities. The total samples size has increased by a large number of projects since 2012.

Local Authority costs fell steadily between 2012 and 2015, but costs rose in 2016 and before falling back in 2017. The rate for 2017 is back to levels of 2012.

DfE average gross costs are lower than Local Authorities but the gap is reducing, this is in part due to the collaborative working between the DfE, LA's and EBDOG on understanding cost differences and sharing best practice. DfE project costs/m² are currently 28.49% lower in the 2017 sample of projects in comparison to the LA costs, but with the LA costs on a downward trajectory. The trend line indicates an approximate 15% difference at the end of 2018 between LA and DfE costs. There are a number of factors influencing these costs:

- ◆ DfE projects are generally much larger than Local Authority schemes and therefore benefit from economies of scale.
- ◆ The DfE has a focus on efficiencies through standardisation of design and purchasing at scale via the DfE Construction Frameworks.

Due to the data set collected by this study a large percentage of projects submitted for the year 2016 are smaller in size than those in 2015. This is evidenced in Figure 2 (right) which shows an increase in Local Authority costs for 2016 then costs easing in 2017.

Figure 2 (right) displays the average costs per year alongside the number of projects in each year banding.

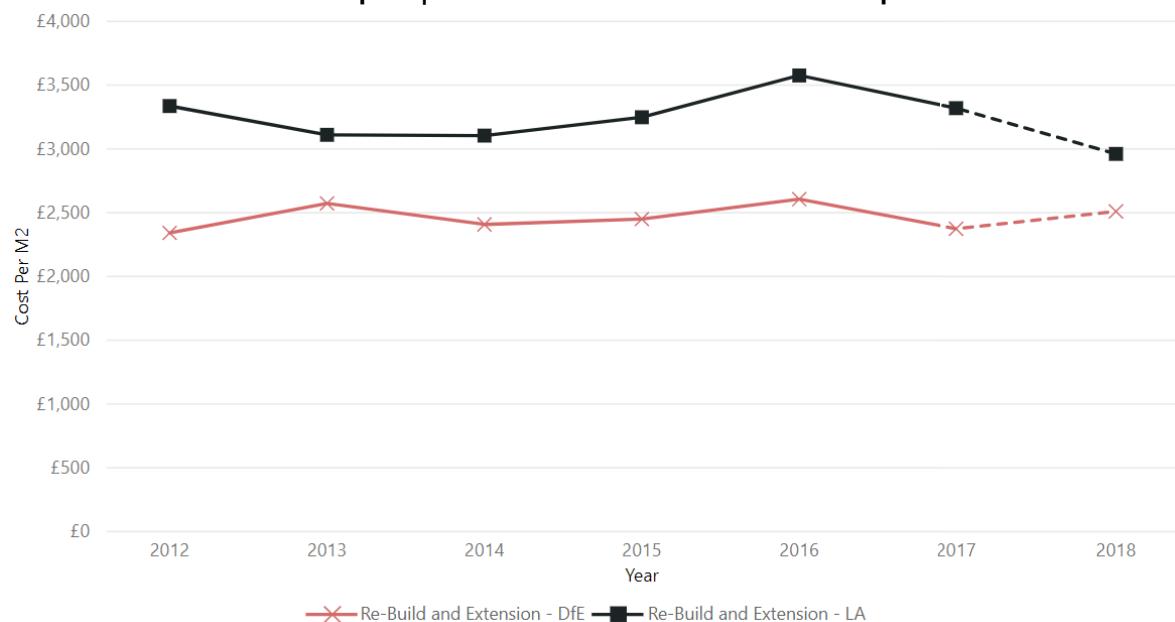
Graph 2 | Re-Build & Extension Gross Costs per m²

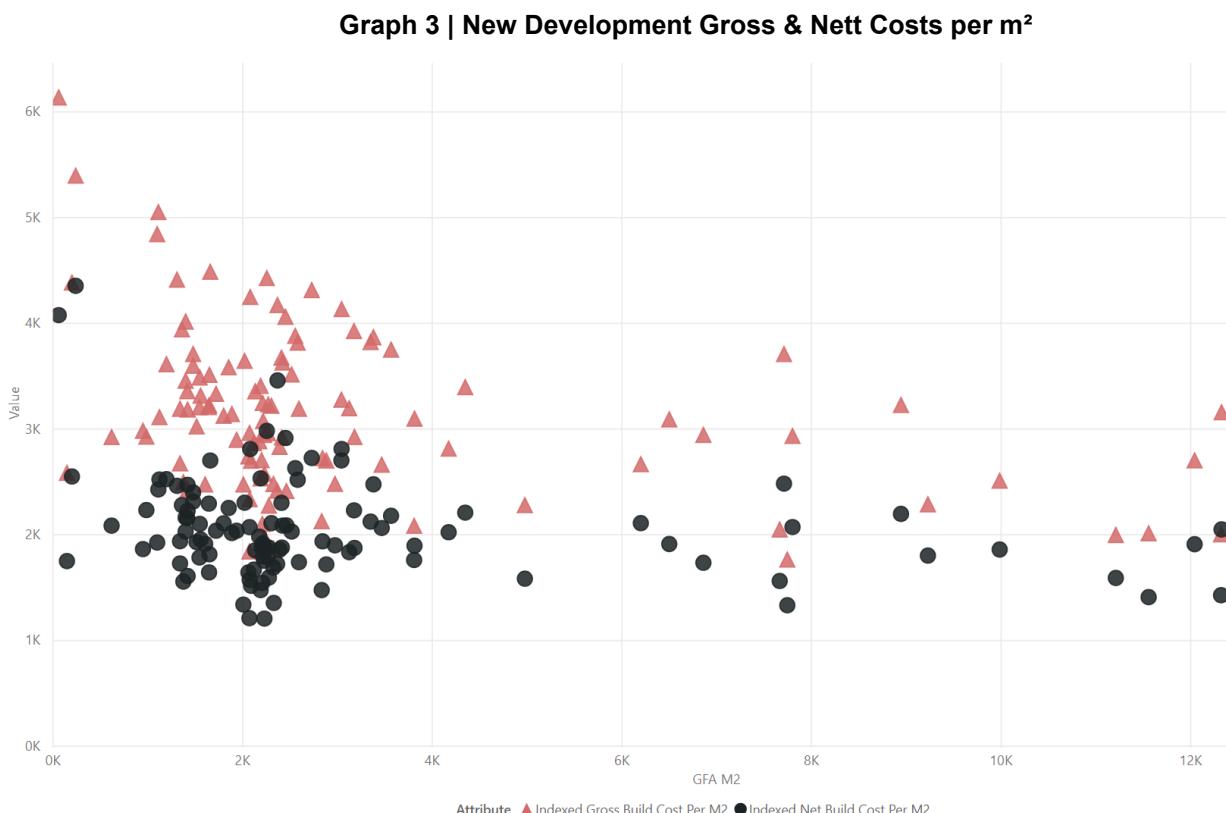
Figure 2 | Primary School Costs - Re-Build and Extension

Year	Gross Costs per m ²				Costs Per Pupil Place			
	Local Authority		DfE		Local Authority		DfE	
	Average	Sample Size	Average	Sample Size	Average	Sample Size	Average	Sample Size
2012	£3,336	27	£2,341	2	£15,765	27	£13,326	2
2013	£3,110	62	£2,573	10	£13,955	62	£13,436	10
2014	£3,104	79	£2,408	33	£13,792	79	£12,503	33
2015	£3,248	64	£2,450	39	£16,372	64	£13,211	39
2016	£3,576	49	£2,606	27	£13,316	49	£13,347	27
2017	£3,320	34	£2,374	3	£13,932	34	£11,666	3
2018	Insufficient Data - Trend Line Only							

New Development projects are new schools built on greenfield sites, which include significant infrastructure and external work costs. There are 84 such projects in this study. Graph 3 (right) displays the gross and nett costs per m² for these projects. A detailed breakdown is shown on page 12.



Barton Farm School. Hampshire County Council



2,008m²
average floor area

5.85m²
average GIFA per pupil place

46wks
average contract period

£3,303
average gross cost /m²

£2,124
average nett cost /m²

£16,874
average cost per pupil place

Key Definitions**New Development**

Any project where 100% of the works being undertaken are new build and the site used is a greenfield site. Includes significant infrastructure and external works.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

A detailed breakdown of average costs by GIFA bands is shown in the table below.

Some key analysis from this data set is summarised below:

Procurement

The study has demonstrated that the majority of New Development projects are procured via two stage open book tendering.

Form of Construction

The majority of projects use a steel frame with a composite cladding system. A small number of schemes use modular forms of construction, which on average reduce contract periods by about 15% on a typical school build when compared to an equivalent sample of steel frame projects, with an average cost saving of 7%.

Infrastructure

Due to the nature of these projects a significant investment in infrastructure and external works is evidenced throughout the sample. On average this infrastructure cost is 10% higher than seen throughout an equivalent sample of Re-Build & Extension projects where the existing site is used.

Figure 3 | New Development Average Cost Summary

GIFA (m ²)	Gross Cost per m ²			Nett Cost per m ²			Cost Per Pupil Place			Sample Size	
	Average	20th Percentile		Average	20th Percentile		Average	20th Percentile			
		80th Percentile	80th Percentile		80th Percentile	80th Percentile		80th Percentile	80th Percentile		
0 - 750	£4,287	£2,860	£5,545	£2,994	£2,138	£4,133	£10,461	£4,657	£13,831	5	
750 - 1,500	£3,462	£2,799	£3,988	£2,145	£1,889	£2,449	£19,655	£14,386	£23,202	18	
1,500 - 2,250	£3,049	£2,701	£3,409	£1,921	£1,644	£2,109	£15,093	£11,407	£18,810	31	
2,250 - 3,000	£3,228	£2,481	£3,918	£2,154	£1,737	£2,649	£19,084	£12,468	£24,305	20	
3,000 - 3,750	£3,508	£3,089	£3,892	£2,256	£1,989	£2,568	£16,329	£14,838	£17,681	9	
Above 3,750	£3,099	£3,099	£3,099	£1,897	£1,897	£1,897	£14,806	£14,806	£14,806	1	
Whole Sample All GIFA Bands	£3,303	£2,691	£3,874	£2,124	£1,747	£2,474	£16,874	£11,935	£21,671	84	

Key Definitions

New Development

Any project where 100% of the works being undertaken are new build and the site used is a greenfield site. Includes significant infrastructure and external works.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Re-Build & Extension projects are formed from a combination of new blocks, extensions to existing schools and re-build projects on the existing site. In most cases there are elements of demolition and some projects include refurbishment work to existing buildings.

In total, 454 Re-Build & Extension projects were submitted to the study, Graph 4 (right) displays the gross and nett costs per m² for these projects. A detailed breakdown is shown on page 14.

The sample includes 191 DfE schemes submitted by the DfE, these projects include local authority contributions where applicable.



Whitehouse Primary School, Suffolk County Council

1,356m²

average floor area

5.24m²

average GIFA per pupil place

41wks

average contract period

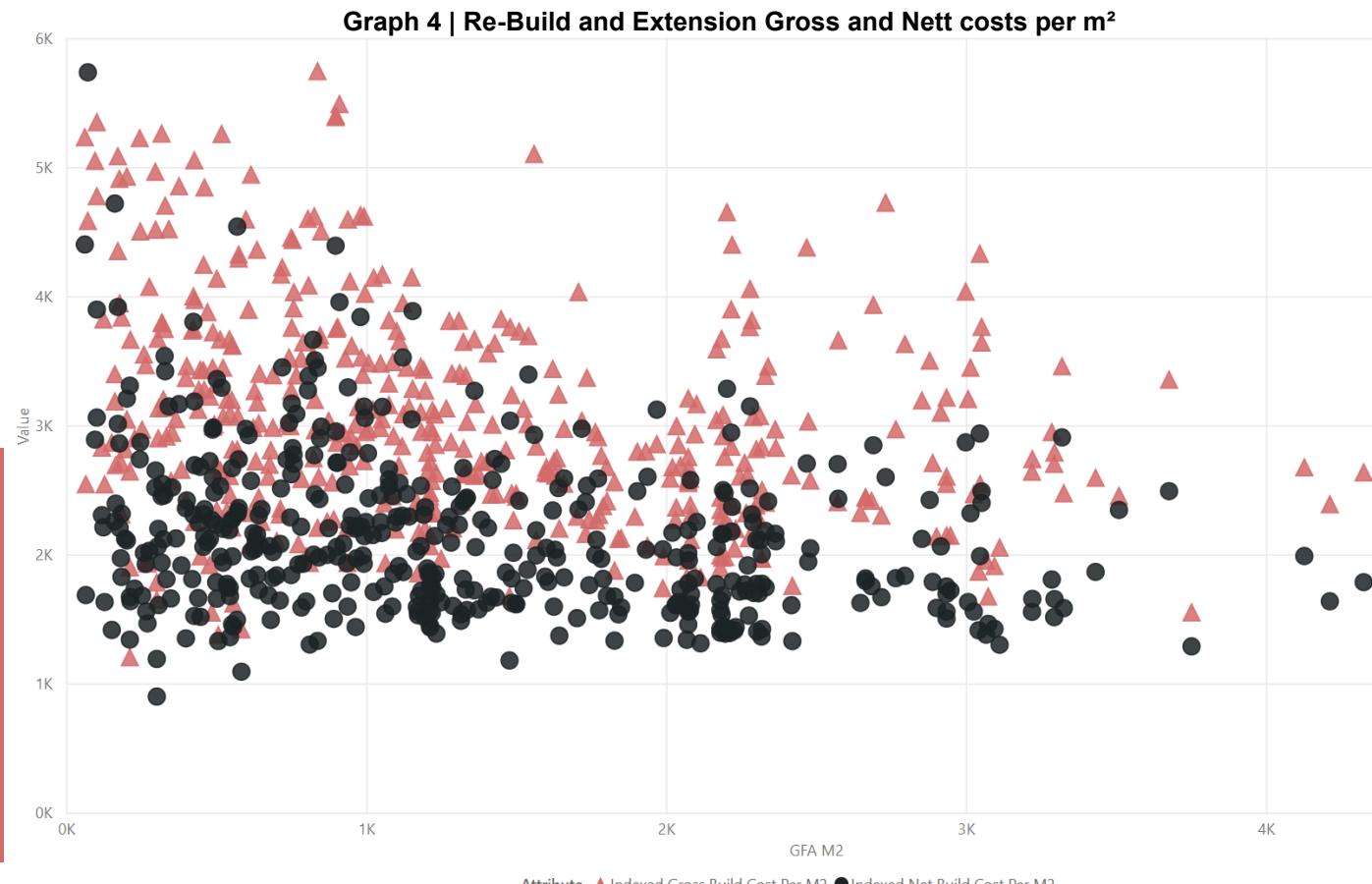
£3,038average gross cost /m²**£2,148**average nett cost /m²**£14,189**

average cost per pupil place

Key Definitions**Re-Build & Extension**

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

**Location Factor**

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

A detailed breakdown of average costs by GIFA bands is shown in the table below.

Some key analysis from this data set is summarised below.

Procurement

The study demonstrates that the Re-Build & Extension projects are procured via a number of different methods which include single stage and two stage tendering.

Form of Construction

The majority of projects use a steel frame with a composite cladding system. A small number of schemes use modular forms of construction, which on average reduce contract periods by 15% when compared to an equivalent sample of steel frame projects., with an average cost saving of 7%.

Infrastructure

Due to the nature of Re-Build & Extension projects, where the existing site is maintained, the costs associated with infrastructure are low, representing 15% of the total project cost on average across the sample. and therefore do not form part of the construction cost for the school.

On average the infrastructure cost for a new development is 10% higher than seen throughout an equivalent sample of Re-Build & Extension projects where the existing site is used.

Figure 4 | Re-Build & Extension Average Cost Summary

GIFA (m ²)	Gross Cost per m ²			Nett Cost per m ²			Cost Per Pupil Place			Sample Size	
	Average	20th Percentile		Average	20th Percentile		Average	20th Percentile			
		80th Percentile	80th Percentile		80th Percentile	80th Percentile		80th Percentile	80th Percentile		
0 - 750	£3,330	£2,568	£4,124	£2,371	£1,765	£2,882	£13,346	£7,208	£16,513	165	
750 - 1,500	£3,011	£2,404	£3,609	£2,165	£1,635	£2,581	£15,652	£10,971	£17,622	137	
1,500 - 2,250	£2,735	£2,220	£3,152	£1,897	£1,539	£2,244	£13,755	£10,209	£17,430	82	
2,250 - 3,000	£2,812	£2,301	£3,254	£1,935	£1,626	£2,200	£14,248	£9,894	£18,161	45	
3,000 - 3,750	£2,702	£1,958	£3,359	£1,800	£1,428	£2,323	£12,868	£9,408	£14,851	21	
Above 3,750	£2,502	£2,353	£2,657	£1,774	£1,659	£1,871	£13,886	£11,118	£16,750	4	
Whole Sample All GIFA Bands	£3,038	£2,327	£3,676	£2,148	£1,629	£2,578	£14,189	£9,451	£17,283	454	

Key Definitions

Re-Build & Extension

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Refurbishment projects vary considerably in nature which makes trends and benchmarking difficult. We have split these schemes into three types of refurbishment project, namely light, medium and heavy to try and limit the variations.

In total, 63 refurbishment projects were submitted to the study, Graph 5 (right) displays the gross costs per m² for these projects. A detailed breakdown is shown on page 16.

Full definitions of light, medium and heavy refurbishment used for this study can be found on page 31.



Wilson Primary School, Reading Borough Council

1,480m²
average floor area

6.25m²
average GIFA per pupil place

36wks
average contract period

£2,132
average gross cost /m²

£11,885
average cost per pupil place

Key Definitions Refurbishment

Any project which contains significant alterations or less than 50% new build to existing buildings. The works are further categorised as light, medium and heavy refurbishment. See further definitions for these levels on page 29.

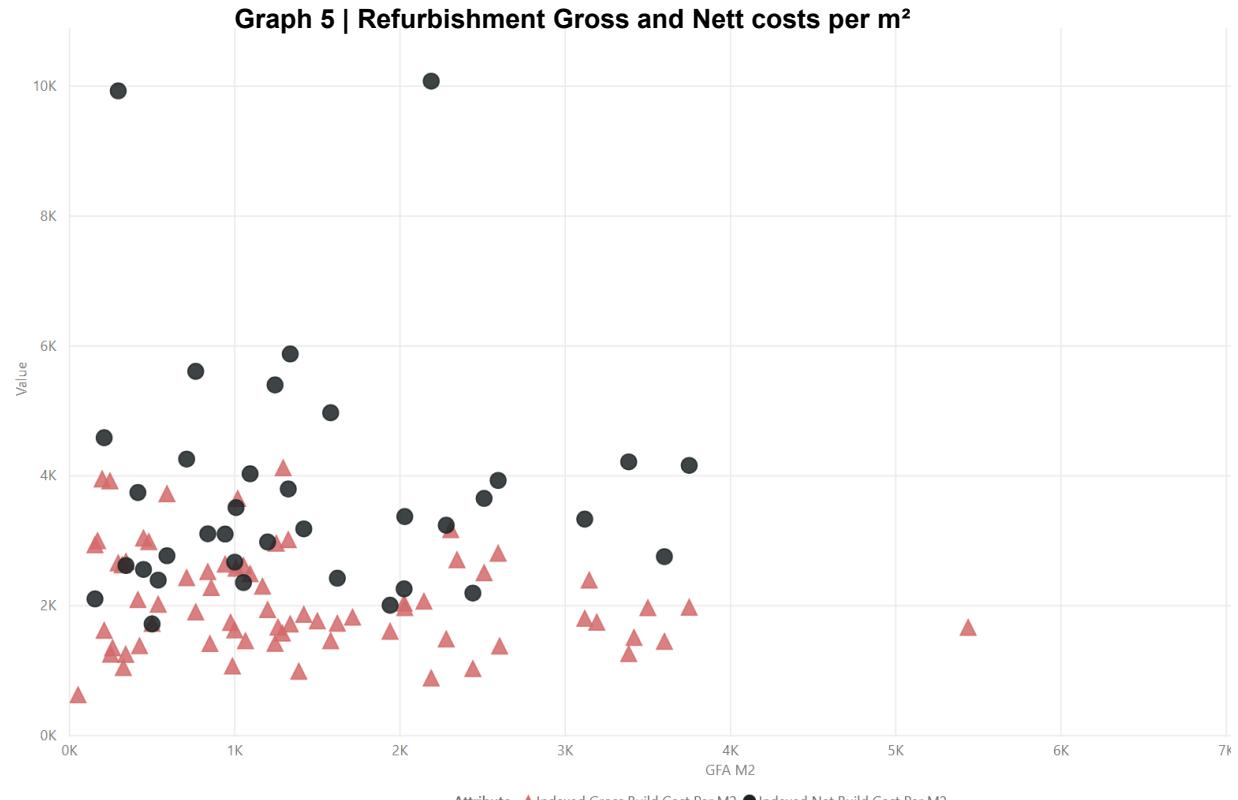
Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.



A detailed breakdown of average costs by GIFA bands is shown in the table below.

Some key analysis from this data set is summarised below:

This study has demonstrated that heavy refurbishment projects which typically extend the economic life of a building by approximately 15 - 25 years, have an average gross cost per m² of £3,113, this compares favourably with a cost per m² of £3,411 for an equivalent demolition and new build solution. The heavy refurbishment costs represents a 24% increase when compared to a sample of equivalent medium refurbishment projects, typically refurbishment will increase the economic life of a building by up to 15 years for Medium refurbishment and by upto 25 years for heavy refurbishment. Given that heavy refurbishment projects include significant structural alterations and may also include the replacement of facades and roof finishes, this additional cost would be expected. The above is indicative as the majority of the sample (42 in number) comprise medium refurbishment projects. The sample of heavy and light refurbishment projects is 7 and 5 projects respectively.

Projects within the dataset vary considerably, as is the nature of refurbishment schemes and therefore it is difficult to draw any firm trends across the sample.

Figure 5 | Refurbishment Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Nett Cost per m ²		Cost Per Pupil Place		Sample Size	
	Average	20th Percentile	Average	20th Percentile	Average			
		80th Percentile		80th Percentile				
0 - 750	£2,374	£1,622 £2,978					27	
750 - 1,500	£2,026	£1,461 £2,299					21	
1,500 - 2,250	£1,681	£1,032 £2,070					6	
2,250 - 3,000	£1,994	£1,356 £2,800					5	
3,000 - 3,750	£1,905	£1,652 £2,140					4	
Whole Sample All GIFA Bands	£2,132	£1,433 £2,768					63	

Not Benchmarked

Key Definitions

Refurbishment

Any project which contains significant alterations or less than 50% new build to existing buildings. The works are further categorised as light, medium and heavy refurbishment. See further definitions for these levels on page 29.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Part Three Secondary Schools



Robert Mays School, Hampshire County Council

Part Three | Secondary Schools **Overview**

The secondary school sample consists of 169 projects which are split into three school categories as shown in the pie chart (right). This sample features projects from 2012 to 2018 with a total combined capital value of £2.29 billion, comprising:

- ◆ 20 New Development projects (3 All Through schools)
- ◆ 147 Re-Build & Extension projects (7 All Through schools)
- ◆ 2 Refurbishment projects

169

secondary schools

The majority of the secondary school sample consists of Re-Build & Extension projects, demonstrating that Local Authorities are starting to expand existing school sites to meet the considerable forecast demand for pupil places. The sample has seen a 53% increase in schemes since last year.

The majority of schemes are procured via a framework arrangement, be that at a national, regional or local level. It has not been possible to draw sufficient trends relating to the cost benefits of the different procurement routes due to the significant variations in the framework arrangements.

Over the next pages, further commentary is provided for each project category which details cost variations and observations on drivers for costs between projects.

A small sample of New Development and Refurbishment projects has been obtained. It is not possible to draw any conclusions or provide further commentary, but this information is given to show the emergence of the sample.

158,000

secondary places provided

£2.29 billion

capital value of secondary school sample

Project Categories

Refurbishment 2
(1%)

New Development
20 (12%)

Re-Build and
Extension 147 (87%)



Starbank All Through School, Birmingham City Council

Part Three | Secondary Schools **Annual Cost Trajectory**

Secondary school gross costs as a whole sample have decreased over the last two years. This has been driven by the small data sets available within the study for New Development and Refurbishment Projects. This study has demonstrated a number of reasons for the fluctuations evidenced in the cost trajectory over the last five years (Graph 6, right) which are outlined below.

New Development

A small sample of New Development projects has been obtained. It is not possible to draw any conclusions or provide further commentary, but this information is given to show the emergence of the sample.

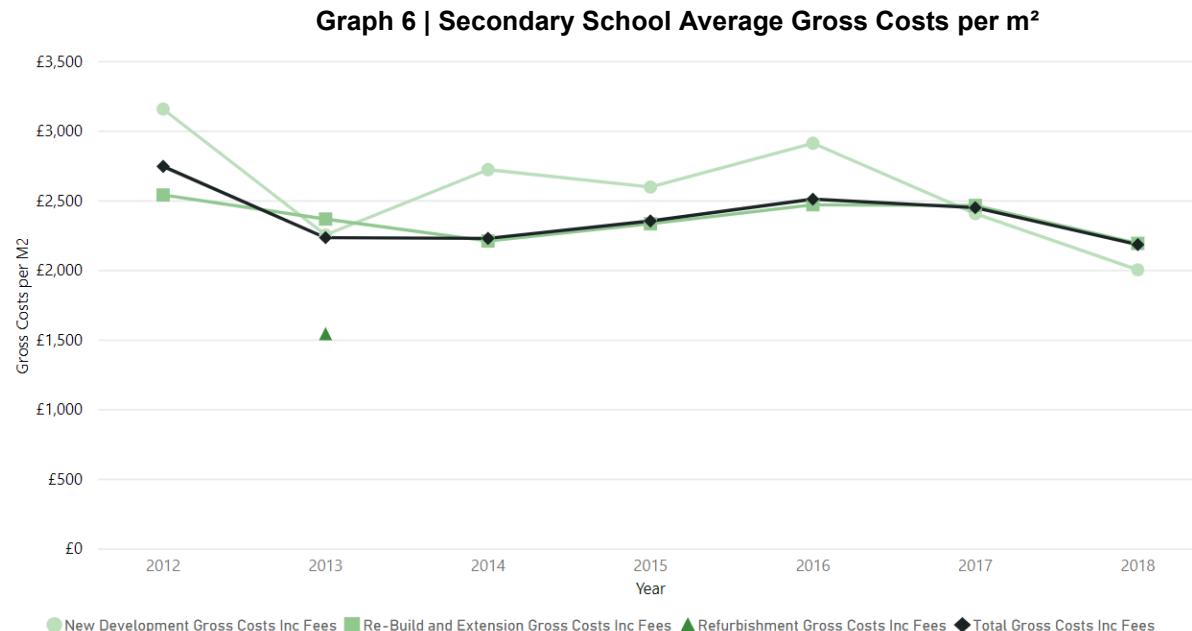
Re-Build & Extension

Extensions to existing school sites, new teaching blocks and re-built schools on existing sites have seen a steady decrease in gross costs over the last 24 months shown. It should be noted that the sample size for 2012 is small and therefore greater certainty can be placed in the 2013 - 2016 trajectory, which saw a 3.97% increase in gross costs. The overall trend from 2016 has been downwards with a reduction of 8.97% between 2016 and 2018.

Refurbishment

A small sample of Refurbishment projects has been obtained. It is not possible to draw any conclusions or provide further commentary.

Figure 6 (right) displays the average costs per year alongside the number of projects in each year. It should be noted that the secondary school sample for New Development and Refurbishment is small and therefore average costs displayed are indicative only.

**Figure 6 | Secondary School Gross Costs per m²**

Year	New Development		Re-Build & Extension		Refurbishment		Whole Sample	
	Gross Cost	Sample Size	Gross Cost	Sample Size	Gross Cost	Sample Size	Gross Cost	Sample Size
2012	£3,159	1	£2,542	2	£0	0	£2,548	3
2013	£2,256	2	£2,370	10	£1,547	2	£2,048	14
2014	£2,098	1	£2,212	26	£0	0	£2,186	27
2015	£2,869	4	£2,401	38	£0	0	£2,700	42
2016	£2,986	5	£2,464	32	£0	0	£2,725	37
2017	£2,663	6	£2,444	17	£0	0	£2,198	23
2018	£2,005	1	£2,243	22	£0	0	£2,131	23

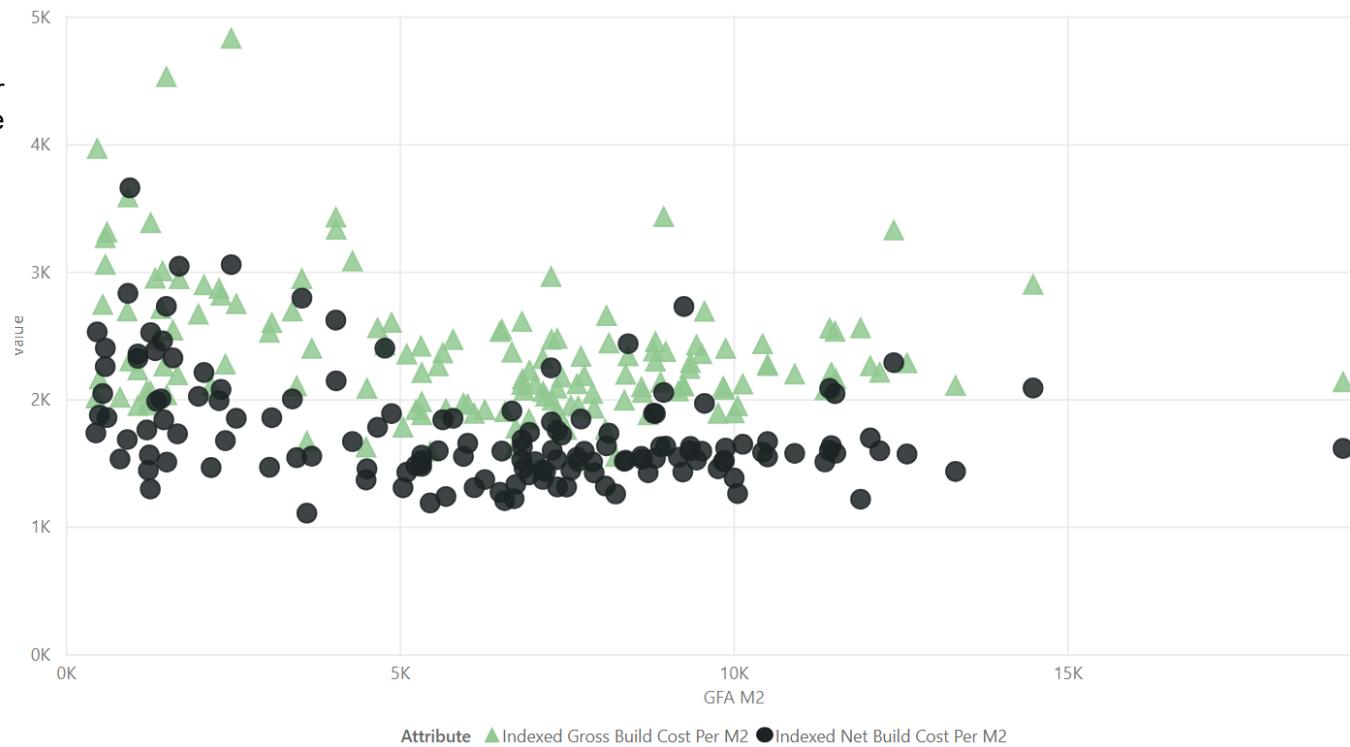
Part Three | Secondary Schools **Re-Build & Extension Summary**

Re-Build & Extension projects are formed from a combination of new blocks, extensions to existing schools and re-build projects on the existing site. In most cases there are elements of demolition and some projects include refurbishment work to existing buildings.

In total, 147 Re-Build & Extension projects were submitted to the study, Graph 8 (right) displays the gross and nett costs per m² for these projects. A detailed breakdown is shown on page 21.



Branston Road High School, Staffordshire County Council

Graph 8 | Re-Build & Extension Gross & Nett Costs per m²

6,255m²
average floor area

6.74m²
average GIFA per pupil place

57wks
average contract period

£2,363
average gross cost /m²

£1,751
average nett cost /m²

£15,239
average cost per pupil place

Key Definitions**Re-Build & Extension**

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Part Three | Secondary Schools **Re-Build & Extension Summary**

A detailed breakdown of average costs by GIFA bands is shown in the table

Some key analysis from this data set is summarised below:

Procurement

The study has demonstrated that the majority of local authority Re-Build & Extension projects are procured via two stage open book tendering. DfE projects are let via an DfE procurement process.

Infrastructure

Due to the nature of Re-Build & Extension projects, where the existing site is maintained, the costs associated with infrastructure are low, representing 15% of the total project cost on average across the sample.

On average the infrastructure cost for a new development is 10% higher than seen throughout an equivalent sample of Re-Build & Extension projects where the existing site is used.

Figure 7 | Re-Build & Extension Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Nett Cost per m ²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile	Average	20th Percentile	Average	20th Percentile	
		80th Percentile		80th Percentile		80th Percentile	
0 - 2,500	£2,722	£2,074 £3,062	£2,142	£1,690 £2,528	£17,120	£6,502 £24,098	36
2,500 - 5,000	£2,504	£2,109 £3,338	£1,844	£1,548 £2,406	£14,776	£14,389 £23,947	16
5,000 - 7,500	£2,140	£1,908 £2,373	£1,557	£1,322 £1,741	£14,109	£10,821 £17,338	42
7,500 - 10,000	£2,199	£1,953 £2,396	£1,578	£1,452 £1,637	£13,963	£11,942 £16,527	33
10,000 - 12,500	£2,333	£2,125 £2,538	£1,663	£1,553 £1,702	£16,386	£13,742 £16,623	16
12,500 - 15,000	£2,436	£2,184 £2,659	£1,703	£1,494 £1,886	£19,490	£17,267 £22,018	3
15,000 - 17,500						No Data	
Above 17,500	£2,141	Insufficient Data	£1,619	Insufficient Data	£12,956	Insufficient Data	1
Whole Sample All GIFA Bands	£2,363	£1,996 £2,653	£1,751	£1,453 £2,024	£15,239	£10,637 £17,659	147

Key Definitions**Re-Build & Extension**

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Part Three | Secondary Schools **New Development Refurbishment Summary**

A small sample of New Development and Refurbishment projects has been obtained. It is not possible to draw any conclusions or provide further commentary, but this information is given to show the emergence of the sample.

Figure 8 | New Development Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Nett Cost per m ²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile	80th Percentile	Average	20th Percentile	80th Percentile	
0 - 2,500	£2,842	£2,623	£3,061	£1,850	£1,811	£1,889	2
2,500 - 5,000	£2,503	£2,370	£2,636	£1,761	£1,655	£1,867	2
5,000 - 7,500	£3,019	£2,975	£3,063	£1,824	£1,771	£1,877	2
7,500 - 10,000	£2,464	£2,050	£2,935	£1,805	£1,563	£2,074	6
10,000 - 12,500	£2,376	£2,004	£2,795	£1,678	£1,425	£1,938	5
12,500 - 15,000	No Data						
Whole Sample All GIFA Bands	£2,552	£2,022	£3,063	£1,770	£1,567	£1,933	17

Figure 9 | Whole Sample Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Nett Cost per m ²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile	80th Percentile	Average	20th Percentile	80th Percentile	
0 - 2,500	£2,686	£2,103	£3,091	£2,126	£1,725	£2,476	35
2,500 - 5,000	£2,393	£1,925	£2,737	£1,857	£1,517	£2,191	19
5,000 - 7,500	£2,177	£1,909	£2,453	£1,572	£1,326	£1,754	43
7,500 - 10,000	£2,235	£1,952	£2,438	£1,616	£1,450	£1,790	37
10,000 - 12,500	£2,343	£2,077	£2,563	£1,667	£1,514	£1,910	21
12,500 - 15,000	£2,436	£2,184	£2,659	£1,703	£1,494	£1,886	3
15,000 - 17,500	£2,141	£1,992	£2,696	£1,619	£1,460	£2,016	1
Whole Sample All GIFA Bands	£2,355	£1,992	£2,696	£1,753	£1,460	£2,016	159

Key Definitions**New Development & Refurbishment**

Category definitions can be found on page 31.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Part Four SEN Schools



Portesbury SEN School, Surrey County Council

The SEN school sample consists of 49 projects which are split into three school categories as shown in the pie chart (right). This sample features projects from 2012 to 2018 with a total combined capital value of £316 million, comprising:

- ◆ 7 New Development projects.
- ◆ 35 Re-Build & Extension projects.
- ◆ 7 Refurbishment projects.

49

SEN schools

While significant demand for school capacity is being seen across the country, this increases the need for specialist teaching facilities and therefore Local Authorities are starting to increase the capacity within SEN school stock. This study evidences that the majority of provision is being made within existing schools, namely Re-Build & Extension projects.

The majority of schemes are procured via framework arrangements either at a national, regional or local level. It has not been possible to draw sufficient trends relating to the cost benefits of these different procurement routes due to significant variations in the framework arrangements.

Over the next pages further commentary is provided for each project category which details cost variations and observations on drivers for costs between projects. A small sample of New Development and Refurbishment projects has been obtained. It is not possible to draw any conclusions or provide further commentary, but this information is given to show the emergence of the

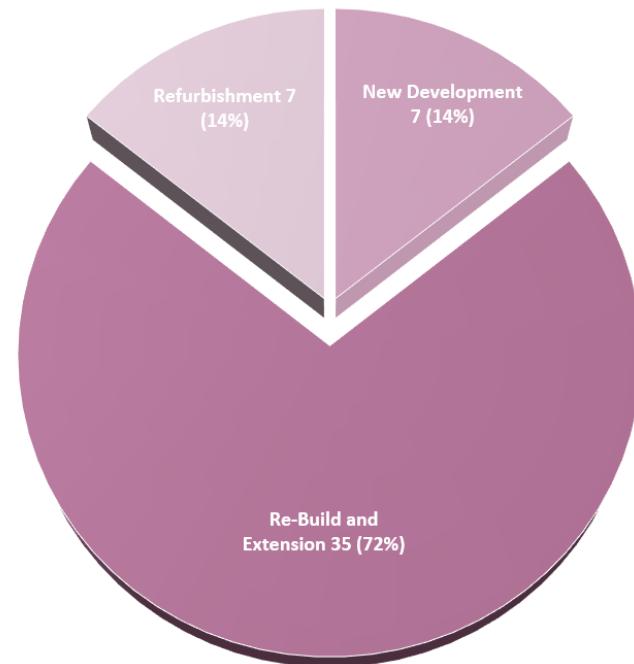
5,500

new SEN places

£316 million

capital value of SEN school sample

Project Categories



Procurement Route



Yewstock Special School, Dorset County Council

Re-Build & Extension projects are formed from a combination of new blocks, extensions to existing schools and re-build projects on the existing site.

In most cases there are elements of demolition and some projects include refurbishment work to existing buildings.

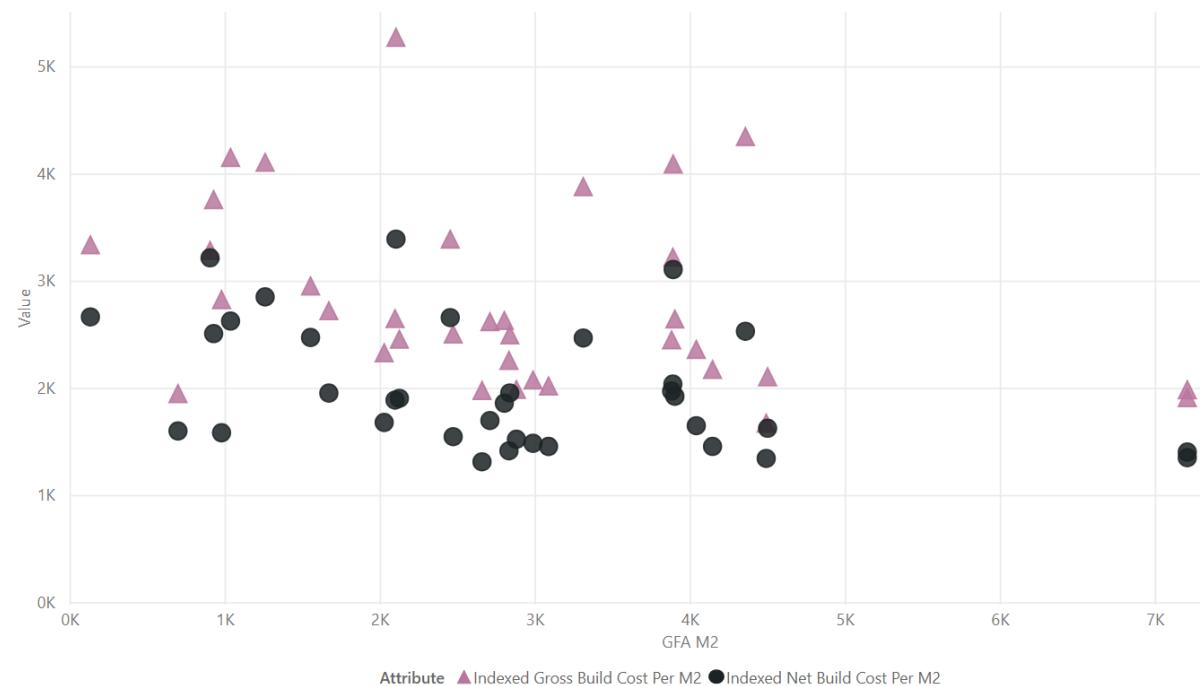
In total, 35 Re-Build & Extension projects were submitted to the study, Graph 9 (right) displays the gross and nett costs per m² for these projects. A detailed breakdown is shown on page 26.

The sample includes 12 DfE schemes submitted by the DfE, these projects include local authority contributions where applicable.



The Base, Blessed Hugh Farringdon, Reading Borough Council

Graph 9 | Re-Build & Extension Gross & Nett Costs per m²



2,856m²
average floor area

24m²
average GIFA per pupil place

59wks
average contract period

£2,821
average gross cost /m²

£2,007
average nett cost /m²

£65,739
average cost per pupil place

Key Definitions

Re-Build & Extension

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

A detailed breakdown of average costs by GIFA bands is shown in the table below.

Figure 10 | Rebuild & Extension Average Cost Summary

GIFA (m ²)	Gross Cost per m ²			Nett Cost per m ²			Cost Per Pupil Place			Sample Size	
	Average	20th Percentile		Average	20th Percentile		Average	20th Percentile			
		80th Percentile	80th Percentile		80th Percentile	80th Percentile		80th Percentile	80th Percentile		
0 - 750	£2,861	£2,487	£3,320	£2,497	£2,029	£2,999	£23,058	£1,912	£40,051	3	
750 - 1,500	£3,715	£3,389	£4,129	£2,396	£2,142	£2,720	£56,041	£43,639	£65,330	4	
1,500 - 2,250	£3,068	£2,461	£2,957	£2,218	£1,892	£2,476	£76,698	£42,992	£88,441	6	
2,250 - 3,000	£2,442	£2,044	£2,628	£1,721	£1,461	£1,902	£62,202	£56,685	£68,989	9	
3,000 - 3,750	£2,954	£2,396	£3,512	£1,965	£1,662	£2,269	£57,872	£48,528	£67,215	2	
Over 3,750	£2,637	£2,610	£4,147	£1,858	£1,967	£2,649	£79,251	£73,889	£112,029	11	
Whole Sample All GIFA Bands	£2,821	£2,068	£3,468	£2,007	£1,483	£2,553	£65,739	£42,854	£80,466	35	

Key Definitions**Re-Build & Extension**

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

A small sample of New Development and Refurbishment projects has been obtained. It is not possible to draw any conclusions or provide further commentary, at this stage.

Figure 11 | New Development Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Nett Cost per m ²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile	Average	20th Percentile	Average	20th Percentile	
	80th Percentile	80th Percentile	80th Percentile	80th Percentile	80th Percentile	80th Percentile	
0 - 750	£2,925	£2,925	£2,086	£2,086	£64,354	£64,354	1
750 - 1,500	No Data						
1,500 - 2,250	No Data						
2,250 - 3,000	£2,202	£2,158	£1,536	£1,501	£66,441	£62,785	2
3,000 - 3,750	No Data						
Over 3,750	£2,741	£2,435	£2,026	£1,919	£98,518	£55,389	4
Whole Sample All GIFA Bands	£2,613	£2,158	£1,895	£1,629	£84,473	£57,530	7
	£2,903		£2,105		£76,174		

Figure 12 | Refurbishment Average Cost Summary

GIFA (m ²)	Gross Cost per m ²		Cost Per Pupil Place		Sample Size
	Average	20th Percentile	Average	20th Percentile	
	80th Percentile	80th Percentile	80th Percentile	80th Percentile	
0 - 750	£628	Insufficient Data		£2,530	Insufficient Data
750 - 1,500	£1,911	£1,582	£39,529	£25,559	3
1,500 - 2,250	£1,824	Insufficient Data		£31,695	Insufficient Data
2,250 - 3,000	£1,977	Insufficient Data		£35,941	Insufficient Data
Other	£1,666	Insufficient Data		£109,375	Insufficient Data
Whole Sample All GIFA Bands	£1,690	£1,501	£42,590	£24,742	7
	£1,946		£60,508		

Key Definitions**New Development & Refurbishment**

Category definitions can be found on page 31.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price Index (TPI) of 1st Quarter 2018 of 317. Index taken from March 2019 data forecasts. This adjusts costs for inflation. VAT is excluded throughout.

Further definitions of key terms and footnotes outlining how the data has been treated can be found on page 31.

Part Five Further Information



Kings' School, Hampshire County Council

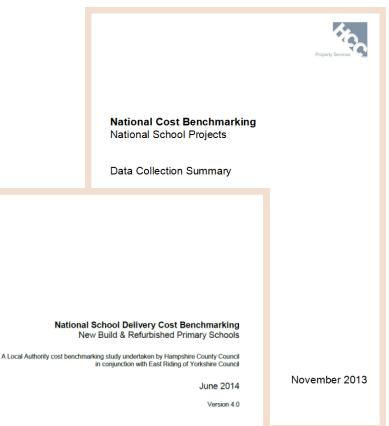
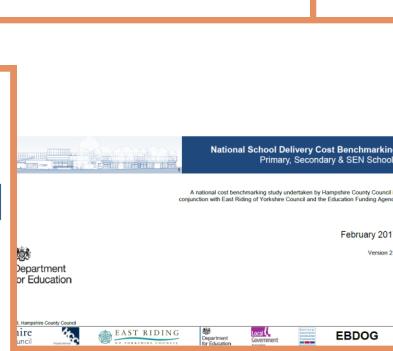
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Part Five | Further Information Future Publications

We are keen to receive projects for our next publication planned for February 2020 and welcome project submissions from any Local Authority in the United Kingdom.

Participating Authorities will be listed in the published report (see page 5), however any data supplied will be treated as commercially confidential and will not be shared with third parties without the submitting Authority providing written approval and / or written acknowledgement. All data submitted remains the property of the submitting Authority.

We are keen to obtain further Primary, Secondary and SEN school cost data in particular. All submissions must use our standard form of cost analysis. For further information or to register your interest for the next study please contact Peter Robinson using the details found at the end of this publication.



Images | Current & Previous Reports



Loddiswell Primary School, Devon County Council

Summary of Publications

Report	Sample Size	Contributing Authorities	Sample Type
April 2013*	45	-	Primary & Secondary
November 2013	39	-	Primary
June 2014	70	-	Primary
January 2015	122	42	Primary & Secondary
February 2016	343	63	Primary, Secondary & SEN
February 2017	546	108	Primary, Secondary & SEN
February 2018	660	126	Primary, Secondary & SEN
March 2019	845	140	Primary, Secondary & SEN

Key terms used throughout this publication and an outline of how data has been adjusted for inflation and regional cost variations are defined here.

New Development

Any project where 100% of the works being undertaken are new build and the site used is a greenfield site. Includes significant infrastructure and external works.

Re-Build & Extension

Any project where over 50% of the works being undertaken are new build, where the site used is adjacent to or the same as the existing site. Including new build blocks, extensions to existing buildings and rebuilds which include elements of demolition.

Refurbishment

Any project which contains significant alterations or less than 50% new build to existing buildings. The works are further categorised as light, medium and heavy refurbishment. See further definitions for these levels.

Refurbishment Level - Light Refurbishment

Investment focused on common areas and essential repairs only. Extension of economic life is approximately 5 years. Works include strip out of existing space, shell and core refurbishment including cosmetic upgrades. Assumes existing main plant, existing floors and ceilings are retained.

Refurbishment Level - Medium Refurbishment

Investment involves full upgrade of the existing building services and finishes but stops short of major structural alterations. Extension of economic life is approximately 15 years. Works include strip out of existing space, shell and core refurbishment including cosmetic upgrades. No major structural or substructural alterations. Existing floors and ceilings are retained and minor repairs only to façade.

Refurbishment Level - Heavy Refurbishment

Investment includes significant structural alterations and may also include the replacement of facades and roof finishes. The complete renewal of internal fittings, finishes and MEP systems. The building is typically unoccupied. Extension of economic life is approximately 15 - 25 years. Works include strip out of existing space, shell and core refurbishment including cosmetic upgrades. Replacement to raised floors, ceilings and new services.

Spatial Measures (GIFA)

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 of the Gross Internal Floor Area (GIFA). This is related to throughout and is the total m² of accommodation delivered by a project. For Refurbishment projects the GIFA refers to the percentage of new build floor area only.

Total Project Cost

Represents the overall project cost at tender stage, inclusive of fees, external works, abnormal costs, including minor building works and fittings and fixtures. It is inclusive of additions for preliminaries, contingency, overheads and profit.

Nett Cost per m²

Represents the tendered cost per m² of GIFA, exclusive of fees, abnormalities, external works, minor building works and alterations. It is inclusive of additions for preliminaries, contingency, overheads and profit. Fixed fittings and furnishings are included.

Gross Cost per m²

Represents the tendered Total Project Cost per m² of GIFA.

Cost Per Pupil Place

Represents the Total Project Cost, divided by the number of additional pupil places being created by the works in the school. Where this data has not been available for refurbishment projects, the Total Project Cost has been divided by the total number of pupils in the school.

20th and 80th Percentiles

The 20th percentile is the value below which 20% of the observations may be found, while the 80th percentile is the value below which 80% are found.

Abnormals

These encompass substructure cost above normalised base cost and demolitions. The normalised base cost for substructures used was £120 per m² of GIFA. This value has been derived using the worked example for calculating substructure abnormalities published by the former Department for Education and Employment (DFEE) within their document entitled "Education Building Projects: Information on Costs and Performance Data". This calculation used within this report recognises the impact of timing (tender factor), location and size of projects.

Fees

All professional (client) fee costs have been included where provided within the sample data. These fees include project management, cost management and other professional services associated to the project. In house architectural service fees are also included where applicable. If fee information was not available a standardised professional fee allowance of 12% has been included on all projects where the unadjusted tendered Contract Sum is £10m or less. A standardised professional fee allowance of 10% has been included on all projects where the unadjusted Contract Sum is in excess of £10m. A professional (client) fee of 3% has been applied to all centrally funded projects submitted by the DfE as agreed with the DfE.

Excluded Cost Elements

Statutory fees, survey costs, loose furniture and equipment, client department costs including programme management, legal and land acquisition costs are excluded from all figures shown herein.

Preliminaries, Contingency, Overheads & Profit

Included in all figures herein as a percentage cost of GIFA. In the case of Refurbishment projects the GIFA refers to the percentage of new build floor area only.

Location Factor

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. Index taken at March 2019.

Inflation

All costs have been updated to the latest Building Cost Information Service (BCIS) ALL-IN Tender Price of Index (TPI) of 1st Quarter 2018 of 317 Index taken at March 2019. This adjusts costs for inflation. VAT is excluded throughout.

Please Note

All cost data contained within this report relates to Tender Stage (Gateway 3, Contract Let) costs, unless otherwise identified as Outturn figures.

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For further information relating to this study or for details regarding future publications and how to participate please contact the individuals below.

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Wimborne First School School, Dorset County Council

