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London's Architecture Sector - Update 2018

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Executive summary

This publication updates previous analysis looking at the economic contribution of London's Architecture sector. In addition to updating Working Paper 86, it adds to the wider evidence base looking at the creative industries such as London's Creative Industries – 2017 Update. This update also looks at the socio-economic characteristics of jobholders in London's Architecture sector. That is in addition to economic output, the labour market, education and international competitiveness.

Overall, some of the key points from this analysis include:

Businesses

- The number of workplaces (i.e. the place of work like an individual office) in London's Architecture sector has been growing. There were 4,515 workplaces in 2017 of which nine in every ten had parent enterprises (i.e. the business in its entirety which may include one or more workplaces not necessarily in London) that were micro businesses employing less than ten employees.

- Across the UK, the annual turnover of the Architecture sector was approximately £6.7 billion in 2016.

- London's Architecture sector produced £1.9 billion (constant 2015 prices) in gross value added (GVA) – a measure of the value of goods and services produced – in 2016. That was the equivalent of 0.5 per cent of the London economy and broadly in line with the size of London's Postal and courier activities (£1.8 billion) and Motor trades (£2 billion) sectors.

- London's Architecture sector has grown 7.7 per cent per annum in real terms on average between 2009 and 2016. That was faster than the rate of real growth for the creative industries and the London economy.

- Overall, more than two-fifths of the Architecture sector's GVA for Great Britain was from London in 2016.

Employment

- There were 26,200 jobs in London's Architecture sector (including HR and finance jobs) in 2016. If only looking at architect occupations regardless of sector, there were 27,600 jobs. Combining the two definitions, there were 15,000 architects in London's Architecture sector in 2016.

- The gross median hourly wage excluding overtime in London's Architecture sector was £18.33 in 2017. That was higher than the all-sector average of £16.72.

- Just under half (46.7 per cent) of jobs in London's Architecture sector were taken by women in 2016. This proportion (37 per cent) was lower when looking at architect jobs (regardless of sector), however.

- There has been a lot of progress in recent years in closing the gender pay gap in London's Architecture sector. In 2017, the median hourly wage excluding overtime for men was £18.47 (± £2.51) compared with £17.84 (± £3.18) for women.

- Around two-fifths (42.4 per cent) of jobholders in London's Architecture sector were aged 16-34.

- One-third (33.3 per cent) of all jobs in London's Architecture sector were taken by people with a non-UK nationality in 2016.

- London's Architecture and engineering sector (the lowest sector disaggregation possible) was less ethnically diverse than the all-sector average during the 2014 to 2016 period.

- Similarly, there was a lower proportion of jobholders with a non-Christian religion in London's Architecture and engineering sector compared with the all other industries average in the 2014 to 2016 period.

- There was no statistical difference in the proportion of jobholders who were disabled in London's Architecture and engineering sector and the all other industries average between 2014 and 2016.

- It is not possible to look at other socio-economic characteristics like sexuality and socio-economic class due to data limitations.

Education

- One-in-six (16.5 per cent) undergraduates and one-in-three (34.7 per cent) postgraduates studying Architecture, building and planning in the UK did so in London during the 2015-16 academic year.

- Across the UK, 20.4 per cent of undergraduates and 37.6 per cent of postgraduates studying Architecture, building and planning degrees were international students.

Tourism

- Estimates suggest that 2.8 per cent of domestic overnight and 4.2 per cent of domestic day visitors to London undertook activities related to architecture. However, there are potential issues with these estimates particularly around attribution and double counting with other tourism activities.

- Overall, based on several simplifying assumptions, between £427.7 million and £497.8 million of London's GVA could be attributed to architecture-related tourism.

International trade

- The UK is a net exporter of Architectural services. In 2016, the UK exported £439 million of Architectural services and only imported £41 million.

- The value of the Architectural services exports across the UK has grown at a nominal annual rate of 4.3 per cent on average between 2013 and 2016.

- Architecture sits within the wider Technical, trade related, operating leasing and other business services product group. Given this, approximately one-third of the UK's exports for this product group went to the EU in 2016. However, the destination of Architecture exports specifically may be different.

1 Introduction

GLA Economics published for the first time estimates of the economic contribution of London's Architecture sector in 2017. Working Paper 86 looked at indicators such as the number of architectural businesses, the number of job in the Architecture sector and how architecture supports London's international competitiveness[1]. This paper provides an update to these metrics as well as new socio-economic information about the jobholders working in London's Architecture sector.

This publication also sits alongside other GLA Economics work looking at the creative industries[2].

To remain consistent with earlier work, the definition of the Architecture sector used in this paper is unchanged. The main definition is the same as that used by the Department for Culture, Media & Sport (DCMS) which can be used with various official statistics datasets. Other definitions come from the Higher Education Statistics Agency (HESA) subject categories and the Office for National Statistics (ONS) trade classifications. These definitions and data sources are outlined in the next chapter.

After this, Chapters 3 to 7 look at London's Architecture sector in terms of its businesses, employment, the number of people studying architecture and how the sector helps supports the capital's international competitiveness. The final chapter summarises the main findings in this paper.

[1] Wingham, M (2017). London's architectural sector, GLA Economics Working Paper 86.
[2] Rocks, C (2017). London's creative industries – 2017 update, GLA Economics Working Paper 89.

2 Definitions

The definitions used in this paper are consistent with those in the previous update. These are set out in this chapter.

DCMS definition

The main definition used in this paper was developed by DCMS for the creative industries. This enables comparison with other pieces of work including previous GLA Economics analysis. At its core, the DCMS definition of creative industries is based on the definition set out in the Government's 2001 Creative Industries Mapping document[3]. This stated that creative industries are those…

> *"…which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property."*

From this, DCMS developed a statistical definition of creative industries which reflects the above statement[4]. Their methodology can be thought of in two steps. The first was to identify the occupations typically associated with being creative using Standard Occupation Classifications (SOC). Then the 'creative intensity' – that is, the number of creative jobs (using the creative occupation definition) divided by the total number of jobs – is calculated for every industry using Standard Industry Classifications (SIC). If industries have more than 6,000 jobs and have a creative intensity of more than 30 per cent (with a small number of exceptions), then they are considered to be creative industries.

The full creative industries definition is shown in Appendix 1, though the relevant definitions relating to architecture are shown below.

Table 1: Architecture industry definition

Creative industries group	SIC 07	Description
Architecture	71.11	Architectural activities
	which consists of:	
	71.11/1	*Architectural activities*
	71.11/2	*Urban planning and landscape architectural activities*

Source: DCMS Sectors

Table 2: Architectural occupations definition

Creative occupations group	SOC 10	Description
Architecture	2431	Architects
	2432	Town planning officers
	2435	Chartered architectural technologists
	3121	Architectural and town planning technicians

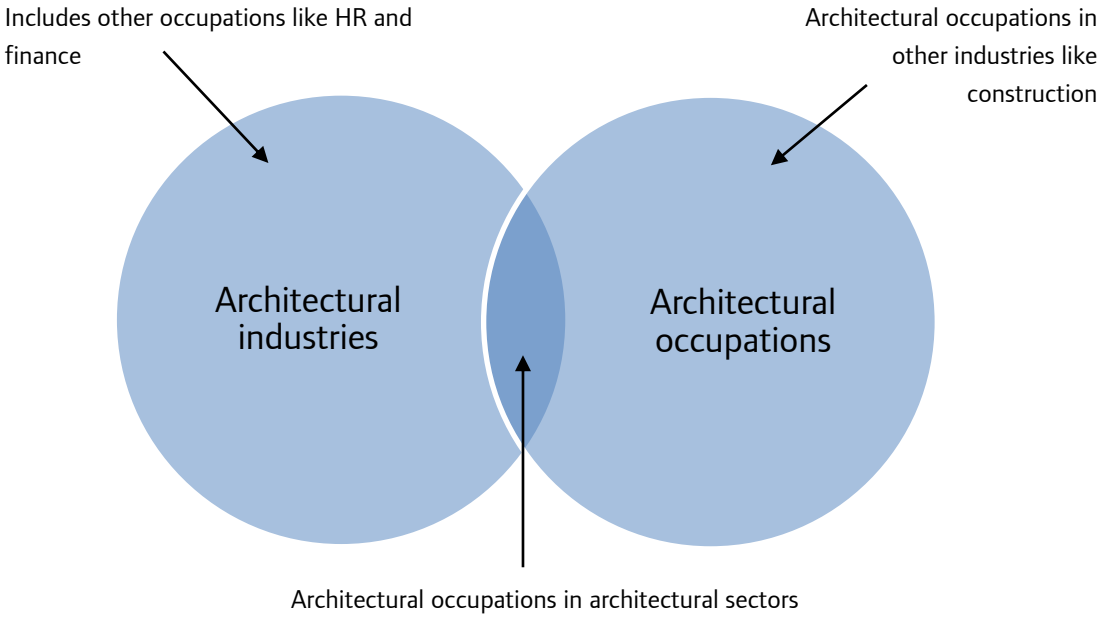
Source: DCMS Sectors

Ultimately, by using these definitions together or separately, the Architecture sector can be characterised in several ways. For example, and as shown in Figure 1:

[3] DCMS (2001). Creative industries mapping documents 2001, 9 April 2001, pg.5.
[4] DCMS (2016). Creative industries economic estimates methodology, 10 February 2016.

- Architectural occupations: architectural jobs in London regardless of whether they are in the architecture industry or not (i.e. they could be in other industries like construction and public administration).
- Architectural industries: all jobs within the architecture industries, so this can include architects, HR and finance occupations.
- Architectural occupations in the architectural industries.

Figure 1: The Architecture sector



Note: not drawn to scale

HESA definition

Another definition of architecture comes from the Higher Education Statistics Agency (HESA). They collect information about the higher education sector and, as such, the definition is based on the subject area of the courses undertaken by undergraduates and postgraduates[5]. Specifically, it uses the Joint Academic Coding System (JACS) which categorises subjects in a hierarchy up to four digits. Higher Education Institutions (HEIs) self-report the subject areas, but there is no requirement for further education providers to provide this information.

The relevant definitions for architecture courses are shown below[6]. In this paper, the subject area – Architecture, building and planning – has been used as this is the most commonly available breakdown within the various HESA datasets. That said, where possible, this is disaggregated into the principle subjects (i.e. Architecture). It is not possible to go further down to the specific subjects.

[5] HESA (2017). Students 2016/17.
[6] While 'K200 Building' may not initially look like it would be classified as architecture, it refers to the study of building materials and techniques. This is similarly the case using the industry definition.

Table 3: Architecture-related higher education courses definition

JACS 3 subject area	JACS 3 principle subject	JACS 3 subject
K100	K100 Architecture	K110 Architecture design theory
Architecture,		K120 Interior architecture
building and		K130 Architectural technology
planning		K190 Architecture not elsewhere classified
	K200 Building	K210 Building technology
		K220 Construction management
		K230 Building surveying
		K240 Quantity surveying
		K250 Conservation of buildings
		K290 Building not elsewhere classified
	K300 Landscape and garden	K310 Landscape architecture
	design	K320 Landscape studies
		K330 Landscape design
		K340 Garden design
		K390 Landscape and garden design not elsewhere classified
	K400 Planning	K410 Regional planning
		K420 Urban and rural planning
		K430 Planning studies
		K440 Urban studies
		K450 Housing
		K460 Transport planning
		K490 Planning not elsewhere classified
	K900 Others in architecture, building and planning	K990 Architecture, building and planning not elsewhere classified

Source: HESA

This paper also uses information from the Research Excellence Framework (REF) to show the quality of and funding amounts for research. This information is broken down by 36 subject areas[7] with the one relating to architecture the most (and therefore used in this paper) being Architecture, built environment and planning. No further breakdowns are available.

ONS international trade definition

While the majority of ONS datasets use the SIC and SOC classifications meaning the DCMS definition of architecture can be used, a different product classification is used for the international trade in services statistics. The ONS produces the International Trade in Services (ITIS) data in accordance with the International Monetary Fund's Balance of Payments manual[8] which sets out the classification of 52 service products that are traded[9]. One of these service products is Architectural activities which will be used as the principle definition in this paper. While surveying could also be counted in this definition, following a reclassification of products in 2012, it is now included in the Scientific and Other Technical Services (including Surveying) which is too broad for inclusion.

[7] http://www.ref.ac.uk/panels/unitsofassessment/
[8] ONS (2015). International trade in services: quality and methodology information, 30 January 2015.
[9] See Table 5 of the ONS International trade in services release for a list of all 52 service product areas (https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/bulletins/internationaltradeinservices/2014).

3 Businesses

Key points

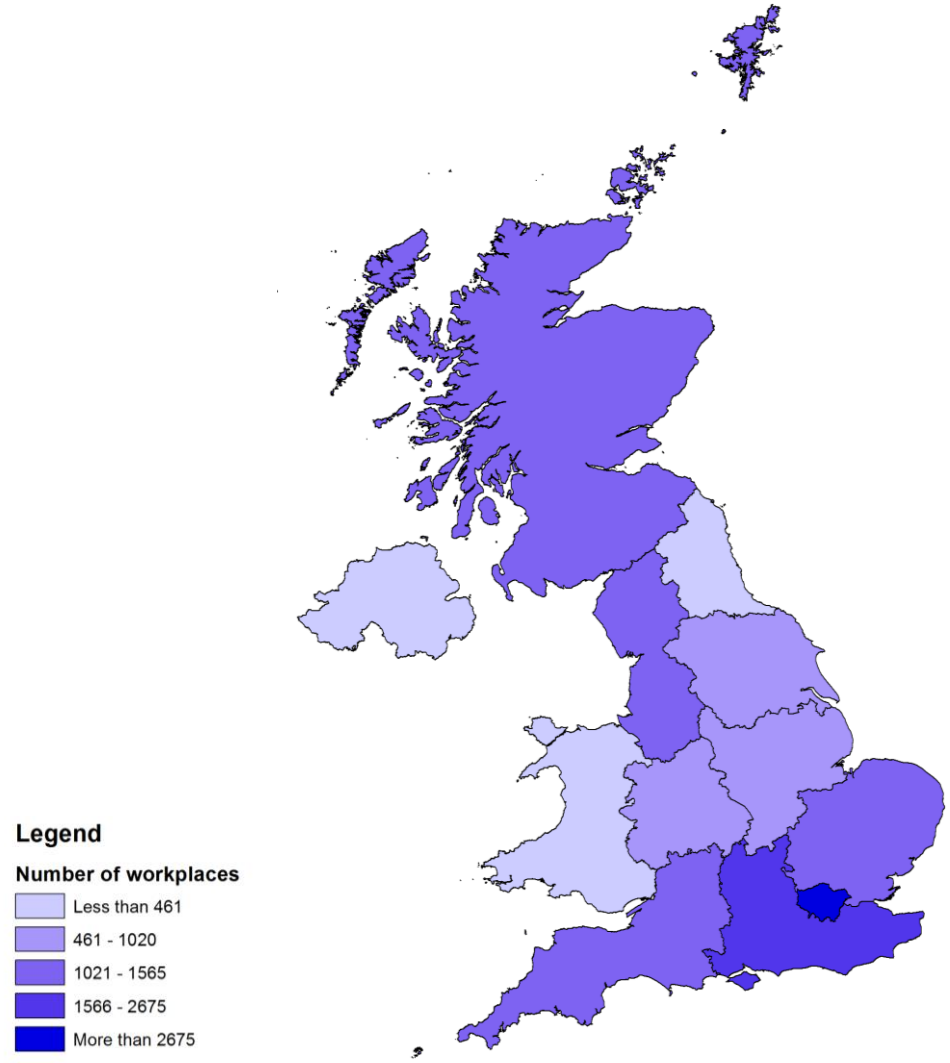
- There were 4,515 workplaces (i.e. the place of work like an individual office) in London's Architecture sector in 2017.
- More than a quarter of the UK's architectural workplaces were in London and this share has been growing over time.
- Almost nine in every ten workplaces had parent enterprises (i.e. the business in its entirety which may include one or more workplaces not necessarily in London) that were micro businesses employing less than ten employees in 2017. Consequently, a similar proportion had annual turnover of £1 million or less.
- Across the UK, the annual turnover of the Architecture sector was approximately £6.7 billion in 2016.
- London's Architecture sector produced £1.9 billion (constant 2015 prices) in gross value added (GVA) – a measure of the value of goods and services produced – in 2016. That was in line with the size of London's Postal and courier activities (£1.8 billion) and Motor trades (£2 billion) sectors.
- London's Architecture sector has grown 7.7 per cent per annum in real terms on average between 2009 and 2016. That was faster than the rate of real growth for the creative industries and the London economy.
- More than two-fifths of the Architecture sector's GVA for Great Britain was from London in 2016.

This chapter looks at the number and location of architectural practices in London. These businesses contribute to London's economy in terms of their fee incomes or revenues which is a proxy for the value of the output that they produce. Consequently, the economic contribution of architecture is also discussed in this chapter.

Number of businesses

There were 4,515 workplaces in London's Architecture sector in 2017. This was more than a quarter (26.7 per cent) of the UK total. That is by far the highest share for any UK region, with the next largest being the South East with 15.8 per cent (2,675 workplaces).

Map 1: Workplaces in the Architecture sector by UK region in 2017



Source: ONS Inter-Departmental Business Register

The number of workplaces in London has been increasing over time. It has increased from 3,905 workplaces in 2015 to 4,515 in 2017. That was an average rate of growth of 7.5 per cent, which was faster than the UK average of 5.3 per cent. Data is available back to 2001, but comparisons with years prior to 2015 are not on a like-for-like basis due to methodological changes.

Table 4: Number of workplaces in the Architecture sector by UK region between 2001 and 2017

Region	2001	2005	2010	2015	2016	2017	CAGR (15-17)
North East	145	165	260	380	395	390	1.3%
North West	470	615	935	1,240	1,255	1,295	2.2%
Yorkshire and The Humber	325	500	645	930	975	1,020	4.7%
East Midlands	275	400	600	800	835	890	5.5%
West Midlands	405	550	745	920	975	1,015	5.0%
East	530	705	1,020	1,345	1,455	1,565	7.9%
London	1,295	1,865	2,635	3,905	4,240	4,515	7.5%
South East	915	1,235	1,755	2,410	2,565	2,675	5.4%
South West	515	725	985	1,300	1,385	1,465	6.2%
Wales	185	275	365	425	440	460	4.0%
Scotland	540	690	1,055	1,205	1,220	1,230	1.0%
Northern Ireland	295	375	425	380	380	385	0.7%
UK Total	**5,895**	**8,100**	**11,425**	**15,240**	**16,120**	**16,905**	**5.3%**
London's share of UK	22.0%	23.0%	23.1%	25.6%	26.3%	26.7%	n/a

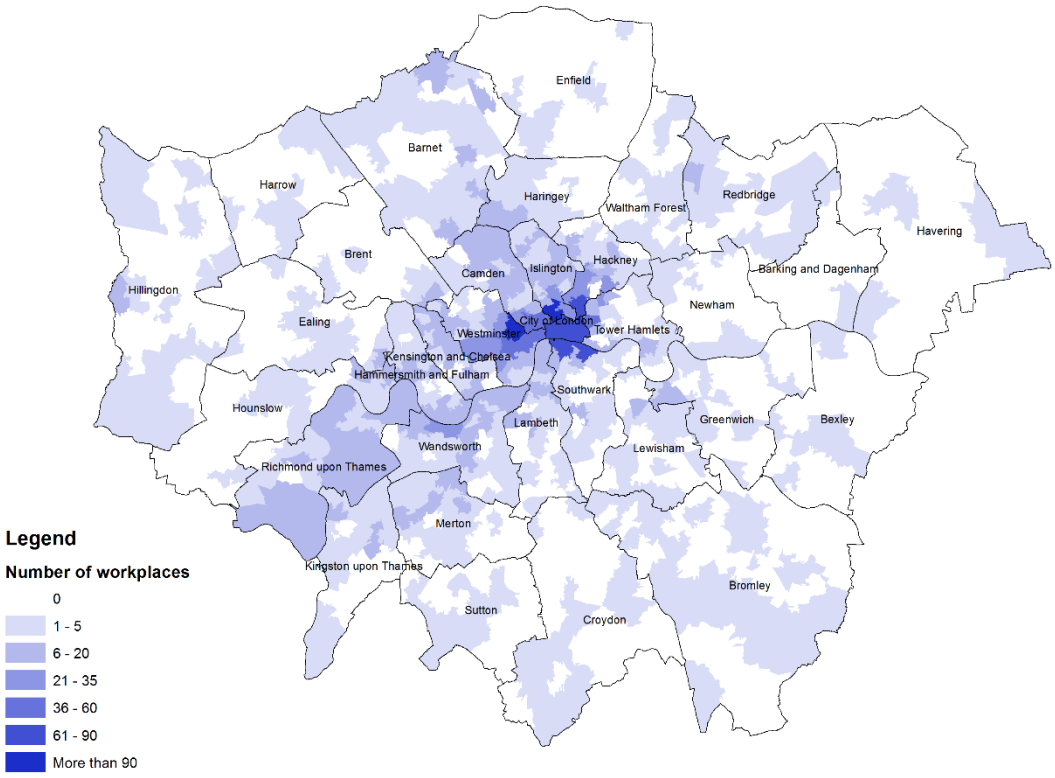
Note: Improvements to the data collection process means that the historic data is not directly comparable. This is particularly the case when major changes were implemented in 2011 and 2015. Source: ONS Inter-Departmental Business Register

Despite this, architecture only accounted for 0.8 per cent of all workplaces in London during 2017 (up from 0.35 per cent in 2001).

While architectural workplaces can be found across London, a larger proportion of them can be found in inner London (Map 2)[10]. Particularly the City of London, Westminster, Islington and Hackney. This is consistent with the spatial distribution of the creative industries which is presented in GLA Economics Working Paper 70.

[10] The information shown in Maps 1-3 are based on middle layer super output areas (MSOAs). This is a standard definition of geographical areas and allows for the reporting of small area statistics.

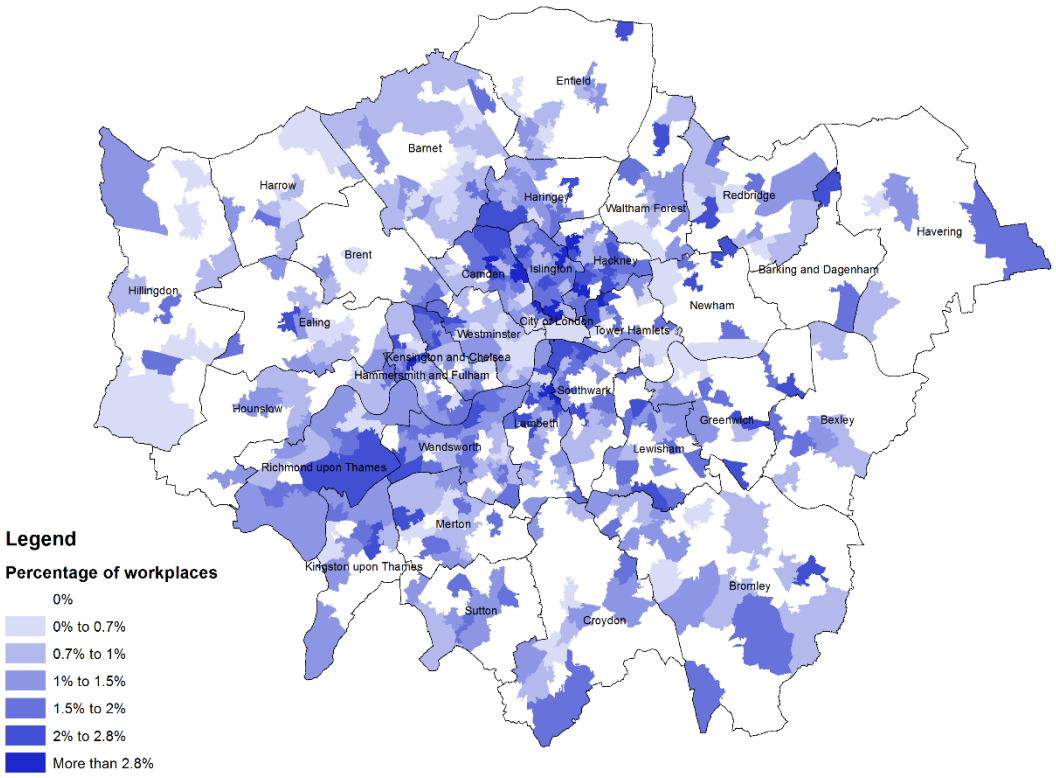
Map 2: Number of workplaces in the Architecture sector by London MSOA in 2017



Note: figures have been rounded to the nearest five. That means that some MSOAs that reportedly have no workplaces in the architecture sector may be untrue. Source: ONS Inter-Departmental Business Register

Perhaps that is not surprising as there tends to be a larger number of businesses in inner rather than outer London. Subsequently, looking at the percentage of workplaces in the Architecture sector may give a better representation of the spatial distribution. Map 3 shows that there is a much wider distribution of architectural workplaces across London on this basis.

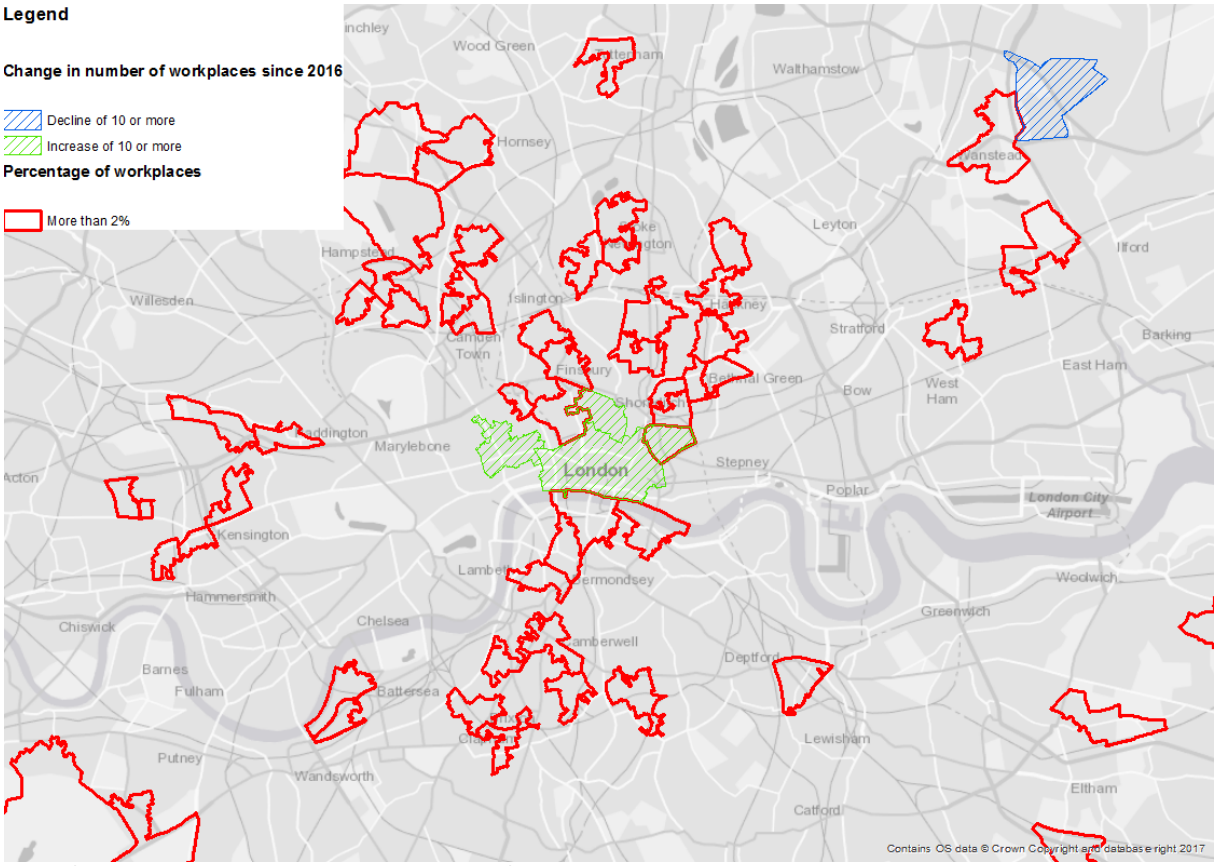
Map 3: Percentage of workplaces by London MSOA that are in the Architecture sector in 2017



Note: figures have been rounded to the nearest five. That means that some MSOAs that reportedly have no workplaces in the architecture sector may be untrue. Source: ONS Inter-Departmental Business Register

Map 4 takes a closer look at some of these locations. Areas with more than 2 per cent of workplaces in the Architecture sector are highlighted in red. This includes the South Bank, Shoreditch, Camden and Stoke Newington among others.

Map 4: London MSOAs where the percentage of workplaces in the Architecture sector is greater than 2 per cent in 2017, central London and some surrounding areas



Note: figures have been rounded to the nearest five. Source: ONS Inter-Departmental Business Register

In comparison to 2016 and after accounting for any differences that could be a result of rounding[11], there has been an increase in the number of architectural workplaces near Spitalfields, Old Street, St Giles and the City (green hashed areas). There was only one MSOA area which saw a decline in the number of architecture workplaces between 2016 and 2017 (blue hashed areas). This was in Redbridge near the area between Redbridge and Gants Hill stations.

Whereas the above analysis referred to workplaces, further characteristics of architectural firms in London are on an enterprise basis. A workplace (or local unit) is an individual place of work like an office or a shop. These are counted as being in London if the individual premise is within the London boundary. In contrast, an enterprise can instead be thought of as the overall business which can be made up of one or more workplaces that are not necessarily all in London.

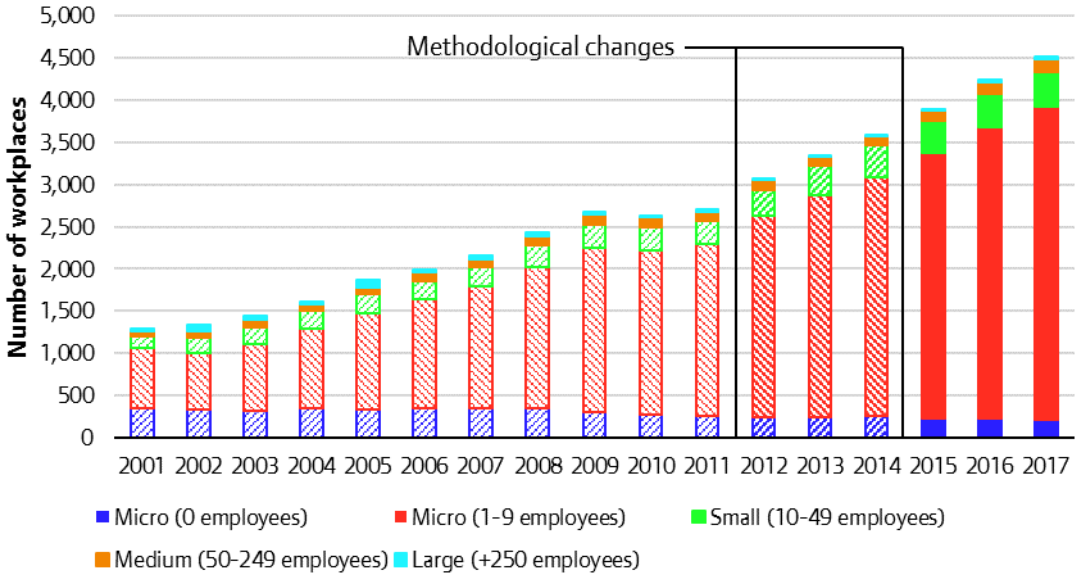
Acknowledging this, the majority (86.9 per cent) of workplaces in London's Architecture sector had parent enterprises that were micro enterprises with less than ten employees[12]. In fact, only

[11] Estimates of the number of businesses have been rounded to the nearest five. Consequently, to be sure that the actual difference between 2016 and 2017 is not overstated due to rounding, only differences of ten or more businesses have been included.

[12] This includes enterprises with zero employees which can happen if an enterprise is operated by a single individual or by partners who did not employ anyone else in the business for example.

3.8 per cent of workplaces had parent enterprises that employed more than 50 people. As can be seen in Figure 2, workplaces with micro parent enterprises have been dominant over time and this share has been increasing[13].

Figure 2: Number of workplaces in London's Architecture sector by size of parent enterprise between 2001 and 2017

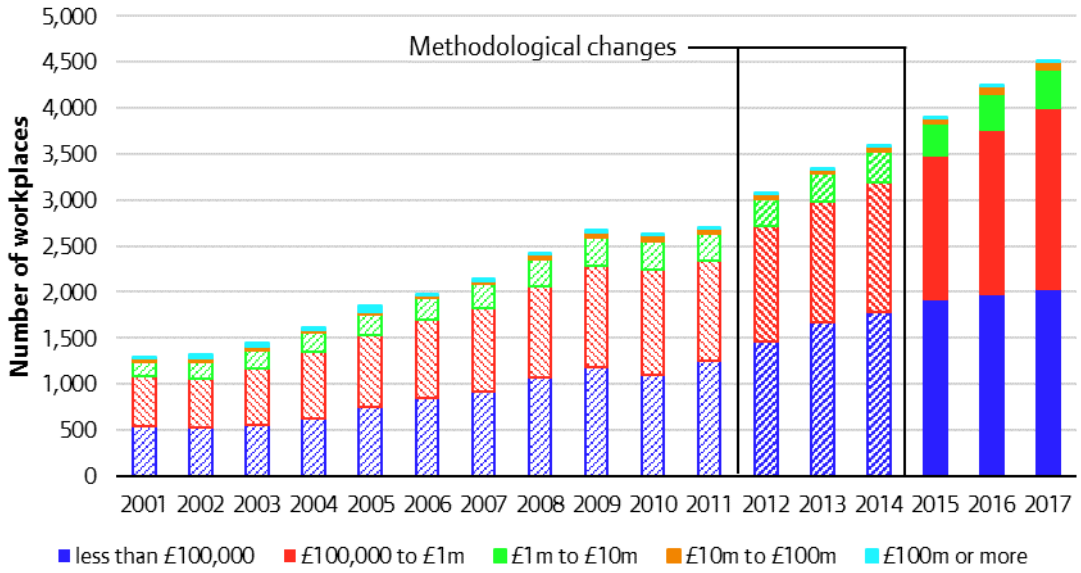


Note: Methodological changes in 2011 and 2015 means that more businesses were added to the IDBR and could explain some of the increase. Source: ONS Inter-Departmental Business Register

Reflective of most architectural workplaces in London having micro parent enterprises, 45.2 per cent had parent enterprises with annual turnover less than £100,000. A further 43.5 per cent had parent enterprises with annual revenues between £100,000 and £1 million, up from 39.8 per cent in 2015.

[13] Comparisons made over time are complicated due to methodological changes. For example, data prior to 2009 have been converted from SIC 1992 and SIC 2003 to SIC 2007 to provide a consistent time series, but industry breakdowns should nonetheless be used with caution. Also, between 2011 and 2012, more businesses were added to the ONS Inter-Departmental Business Register due to improvements to HMRC's computer systems. Similarly, the IDBR coverage was extended to include solely PAYE-based businesses in 2015 which also increased the number of businesses on the Register.

Figure 3: Number of workplaces in London's Architecture sector by turnover of parent enterprise between 2001 and 2016



Note: Methodological changes in 2011 and 2015 means that more businesses were added to the IDBR and could explain some of the increase. Source: ONS Inter-Departmental Business Register

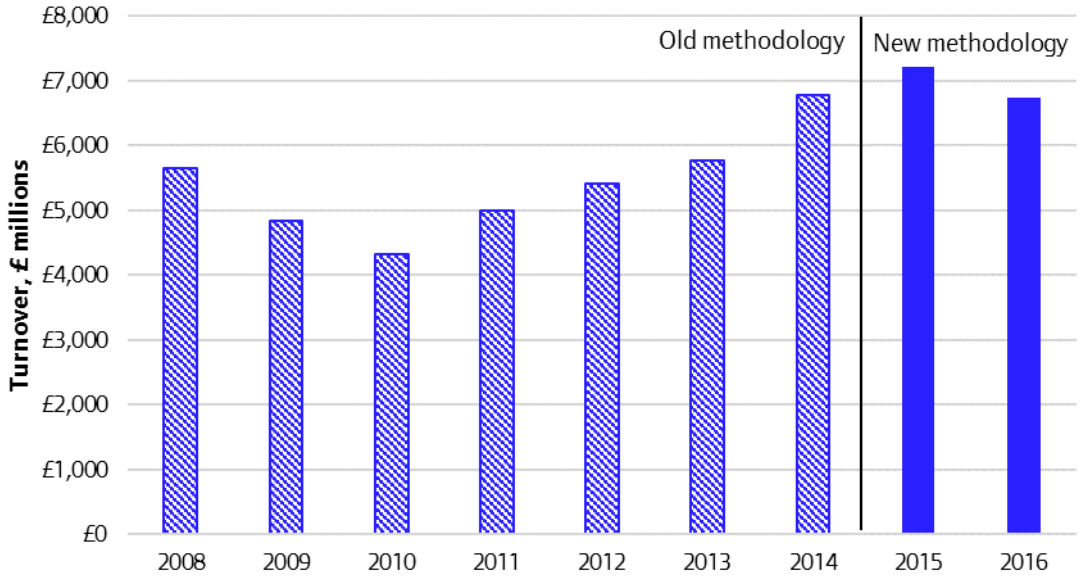
Value of work

This section looks at the fees that architectural firms charge for their services.

The ONS estimated that turnover in the UK's architectural sector was £6.7 billion in 2016. That was slightly down from £7.2 billion in 2015 without taking account for inflation (i.e. in nominal terms)[14]. An increase in the sample size to include pay as you earn (PAYE) businesses in 2015 also means that these estimates cannot be directly compared with the historic series. Acknowledging that, turnover in the Architecture sector has generally been rising over time as shown in Figure 4.

[14] ONS Annual Business Survey

Figure 4: Turnover of the UK's Architecture sector between 2008 and 2016, current prices, £ millions



Note: A methodology change to include PAYE businesses in 2015 means that the historic data is not directly comparable. Source: ONS Annual Business Survey

Regional data is available, but not to the same disaggregation. Instead of referring specifically to the Architecture sector, it refers to the 'Architectural and engineering activities; technical testing and analysis' industry. The latest data point is also for 2015 and does not yet currently include the impact of including PAYE businesses[15]. Given this, the turnover of this broad industry was £12.2 billion in London during 2015. That was up from £8.8 billion in 2008 in nominal terms, representing an average rate of nominal growth of 4.7 per cent per annum. London had approximately one-fifth (19.4 per cent) of the turnover for the UK in 2015.

Alternatively, a different approach to estimating the value of work undertaken by architectural firms is to use the RIBA Business Benchmarking and The Architects' Journal 100 (AJ100) surveys. Both separately ask architectural businesses in the UK about their revenue and salaries, though the former also includes questions about profit, marketing spend and clients. While both are survey based, they target different companies with some overlap. The RIBA survey targets RIBA affiliated companies only and responding is a condition for membership. In contrast, the AJ100 is voluntary and open to all architectural firms, though the results are only published for the 100 largest businesses responding. This means that both sets of survey data are not necessarily representative of the entire Architecture sector. In addition, some caution should be given to the accuracy of the information provided by these surveys; the information may potentially be biased (selection, reporting, recall and positive results bias among others) and there is no way to check the validity of the responses.

Acknowledging the above, the RIBA Business Benchmarking Survey suggested that £3 billion of revenue was generated by RIBA chartered practices across the UK in 2017[16]. That was up 7 per

[15] The next update which should include PAYE businesses is due for publication in July 2018.
[16] RIBA (2017). RIBA business benchmarking 2017, Report prepared for the RIBA by The Fees Bureau.

cent from 2016 (without accounting for inflation). Moreover, of the £3 billion in revenue for the UK, around 60 per cent was generated by practices based in London.

Meanwhile, the AJ100 reported that total fee income for the UK was approximately £2.2 billion in 2017 (based on the top 100 largest companies of which contained 106 individual businesses with one not disclosing the information)[17]. Following a similar approach to last time, this information can be allocated to a region based on the location of the businesses' registered head office with Companies House[18]. However, this simple approach does not account for firms which may have more than one office location in the UK. This presents an issue as total fee income will be allocated to where the business is headquartered and not necessarily where the income was earned. Arguable, this issue could be larger for London where many large architectural firms are registered meaning the figures for the capital could be overstated. Acknowledging this, it is estimated that London-based architectural businesses brought in approximately £1.7 billion of fee income in 2017, the equivalent of 78.7 per cent of the UK total.

Table 5: Fee income by UK region of AJ100 architectural firms in 2017, £ millions

UK region	UK offices - all projects	Overseas offices	Total fee income
North East	£16.9	£1.0	£17.8
North West	£79.8	£9.7	£89.5
Yorkshire & Humber	£31.7	£0.6	£32.3
East Midlands	£27.4	£0.2	£27.6
West Midlands	£29.4	£1.6	£30.9
East	£20.4	£0.0	£20.4
London	**£870.2**	**£873.4**	**£1,739.3**
South East	£92.8	£77.9	£170.7
South West	£31.5	£0.0	£31.5
Scotland	£17.0	£0.0	£17.0
Wales	£29.1	£0.0	£29.1
Northern Ireland	£4.3	£0.2	£4.5
UK total	**£1,250.5**	**£964.6**	**£2,210.6**

Note: Some firms did not disclose their fee income and, consequently, not included in these figures. Source: AJ100

Gross value added

A different measure to illustrate the Architecture sector's contribution to the London economy is gross value added (GVA). This is a measure of the value of goods and services produced and is defined as output minus the cost of inputs associated to that production (i.e. intermediate consumption). This differs from the value of work discussed above which is essentially a measure of revenue and, therefore, includes an element of profit.

The size of London's economy in terms of GVA was £395.9 billion in 2016. This is measured using the income approach which essentially involves adding up the income generated in the production of goods and services. This is also a National Statistic. However, this information is only available by broad industry groups. Alternatively, the ONS has published balanced GVA estimates which take the strengths of the income approach and an alternative production approach to measuring GVA. The balanced GVA estimates are available to a low level of

[17] The Architects' Journal (2017). AJ100, 2017.
[18] Companies House (2018). Business register.

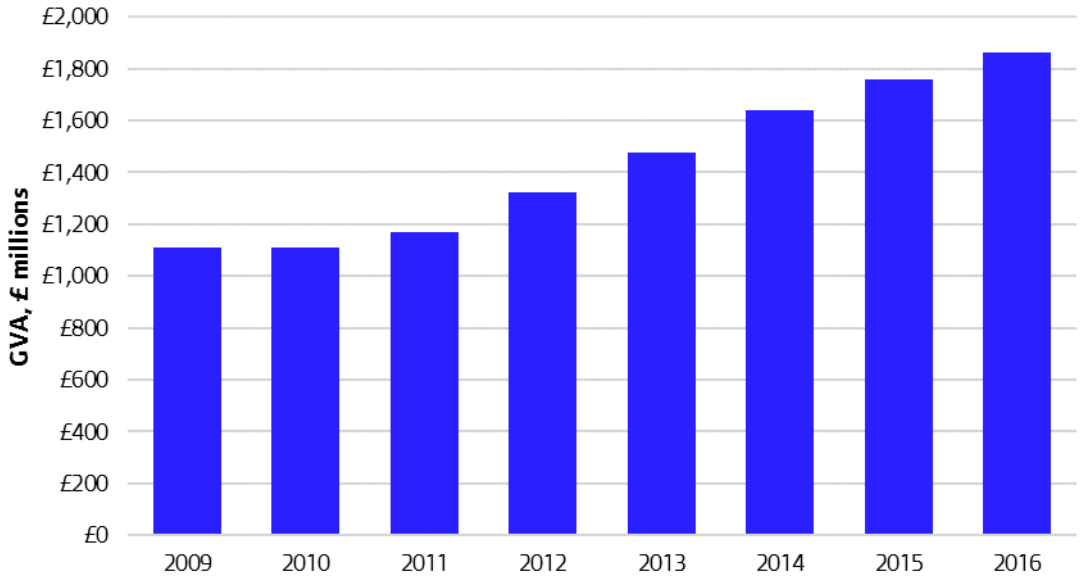
disaggregation, which means it is more applicable in estimating the GVA of the Architecture sector[19]. However, it is currently considered an experimental statistic while it undergoes evaluation meaning the figures are subject to revision. Acknowledging this, the total GVA for London was £408.5 billion in 2016 using the balanced approach.

Still the GVA balanced estimates are only available at the division 2-digit SIC level, whereas the Architecture sector definition is at the 4-digit SIC level (see Chapter 2). Consequently, the GVA of the Architectural and engineering activities division (SIC 71) needs to be apportioned to the Architecture sector (SIC 71.11). GLA Economics Current Issues Note 52 discusses a method that can be used to apportion GVA and is predominantly based on the share of jobs[20]. That is, the share of jobs in the Architecture sector to the wider Architecture and engineering activities division can approximate the share of GVA[21]. Given the level of granularity required, the jobs data only refers to employee jobs and is taken from the ONS Business Register and Employment Survey (BRES)[22].

Overall, the share of employee jobs in London's Architecture sector in relation to the Architectural and engineering activities division total was 31.5 per cent in 2016. Applying this to the estimate of GVA for London's Architectural and engineering activities division (£5.9 billion) suggests that GVA for London's Architecture sector was approximately £1.9 billion in constant 2015 prices during 2016[23]. That was up from £1.1 billion in 2009 representing an average annual rate of real growth of 7.7 per cent.

[19] For more information, see:
https://www.ons.gov.uk/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedbalanceduk/1998to2016
[20] See: Smith, B & Girardi, A (2017). Productivity trends: GVA per workforce jobs for London and the UK, 1997-2015, GLA Economics Current Issues Note 52. Additionally, a small adjustment factor is applied to the regional estimates to ensure consistency with the UK/Great Britain totals.
[21] An issue with this approach is that it assumes the same level of productivity among the individual sectors within the wider division. For example, it assumes that the amount of output per job is the same in all constituent sectors.
[22] The preferred measure of jobs uses the Workforce Jobs series and includes employee and self-employed jobs for instance. However, the workforce jobs series is not available at a low level of disaggregation. For more information, see:
https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/aguidetolabourmarketstatistics
[23] In February 2018, DCMS published estimates of the regional GVA of the architecture sector for the first time (see: https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-2016-regional-gva). This used a similar methodology to GLA Economics in that regional balanced GVA data is apportioned to a specific sector. However, while GLA Economics apportions GVA using the share of jobs, DCMS uses the share of approximate GVA (aGVA) derived from the ONS Annual Business Survey. Currently, DCMS's estimates are being reviewed so, at this stage, they should be used with caution (as with the GLA Economics figures). Acknowledging this, DCMS estimated that the GVA of London's Architecture sector was £1.98 billion in 2016 in current prices (48 per cent of the GB total), compared with the GLA Economics figure of £1.96 billion in current prices (43.2 per cent of the GB total).

Figure 5: London's Architecture sector GVA, constant 2015 prices, £ millions

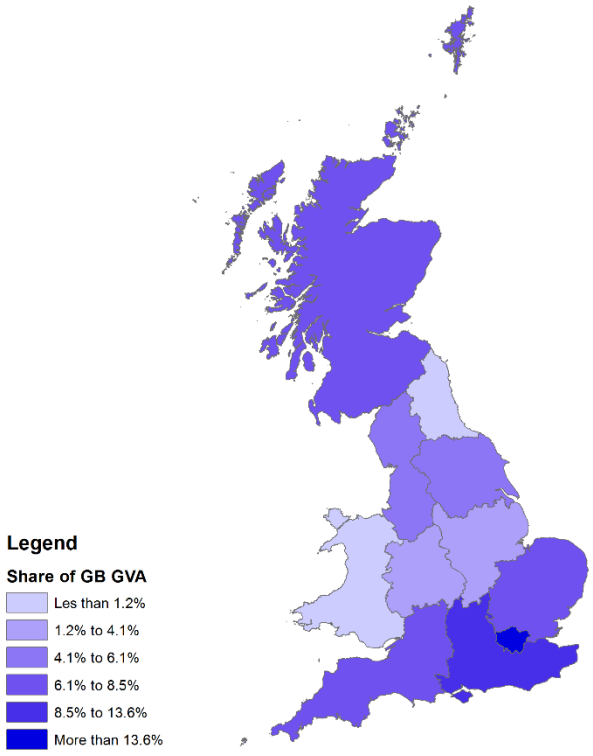


Source: ONS Regional GVA (balanced estimates), ONS Business Register and Employment Survey, GLA Economics

Approximately two-fifths (41.4 per cent) of the GVA from Great Britain's Architecture sector was from London in 2016. This is larger than London's share of total GB GVA (24.1 per cent[24]) suggesting that the capital is more specialised in architecture than the rest of Great Britain. The region with the next largest share of GB's Architecture sector GVA was the South East (13.6 per cent).

[24] This excludes GVA that cannot be assigned to a specific region (i.e. it excludes Extra-Regio GVA).

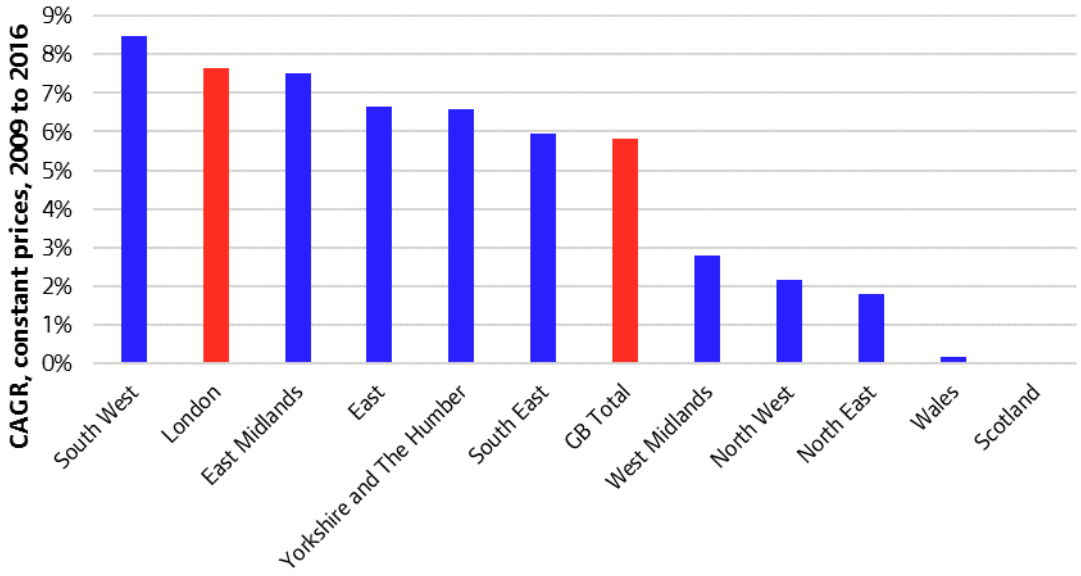
Map 3: GVA share of GB's Architecture sector by region in 2016



Source: ONS Regional GVA (balanced estimates), ONS Business Register and Employment Survey, GLA Economics

As noted above, the GVA from London's Architecture sector has grown 7.7 per cent in real terms on average between 2009 and 2016. That was the second fastest rate of growth among the UK regions, with the South West seeing 8.5 per cent real growth on average during this period. In some areas like Scotland and Wales, there has been relatively little growth in real GVA since 2009.

Figure 6: Compound annual rate of growth in real GVA of the Architecture sector by GB region, constant 2015 prices, 2009 to 2016



Source: ONS Regional GVA (balanced estimates), ONS Business Register and Employment Survey, GLA Economics

London's Architecture sector represented 0.5 per cent of the London economy. (Total GVA of the London economy was £400.5 billion in constant 2015 prices during 2016[25].) In terms of the creative industries, architecture contributed around 4 per cent of its total economic output in 2016. In fact, the Architecture sector is larger in economic output terms than the Crafts, Design: product, graphic and fashion design and Museums, galleries and libraries creative industries (Table 6). However, it is less than a third of Advertising and marketing and less than a fifth of Film, TV, video, radio and photography.

Table 6: GVA by creative industry group in London in 2016, constant 2015 prices, £ millions

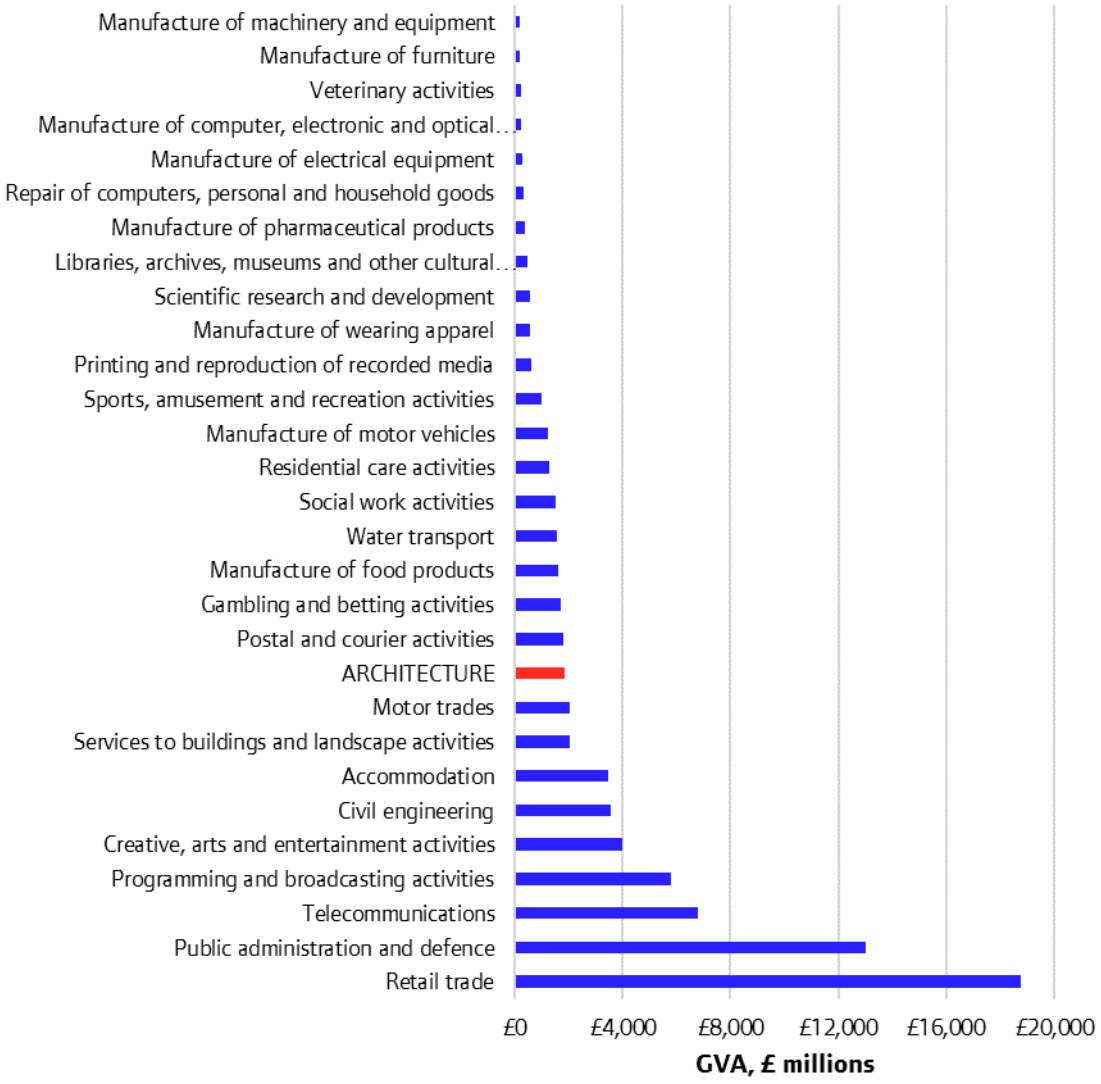
Creative industry group	GVA (£ millions)	as a percentage
Advertising & Marketing	£6,787.8	14.8%
Architecture	£1,860.6	4.1%
Crafts	£76.7	0.2%
Design: Product, Graphic & Fashion Design	£1,439.2	3.1%
Film, TV, Video, Radio & Photography	£12,841.2	28.0%
IT, Software & Computer Services	£10,794.2	23.5%
Publishing	£6,828.9	14.9%
Museums, Galleries & Libraries	£383.6	0.8%
Music, Performing & Visual Arts	£4,870.8	10.6%
Creative industry total	**£45,882.9**	**100.0%**

Source: ONS Regional GVA (balanced estimates), ONS Business Register and Employment Survey, GLA Economics

[25] This uses the ONS Regional GVA (balanced) estimates. However, this is an experimental statistic meaning that it is subject to revision. Alternatively, the ONS Regional GVA (income approach) data are the only GVA estimates that are National Statistics and robust. Using this income approach data suggests that total GVA for London was £395.9 billion in 2016 in nominal prices (compared with £408.5 billion in nominal prices or £400.5 billion in constant 2015 prices when using the balanced estimates).

Figure 7 shows a wider comparison of the Architecture sector with other selected industry divisions (2-digit SIC) in London[26]. Architecture's GVA in London was broadly like Postal and courier activities (£1.8 billion) and Motor trades (£2 billion). It was bigger than Manufacture of food products (not including drinks, £1.6 billion), Gambling and betting activities (£1.7 billion) and Residential care activities (£1.3 billion). It was also only slightly smaller – in relative terms – than Accommodation (£3.4 billion) and Civil Engineering (£3.5 billion).

Figure 7: GVA by selected industry division (2 digit SIC) in London in 2016, constant 2015 prices, £ millions



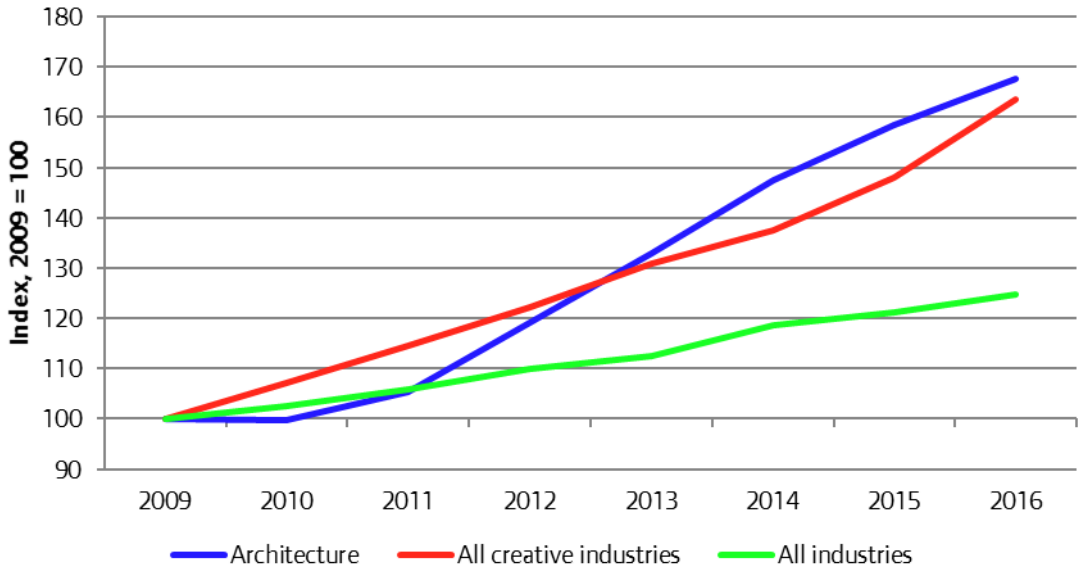
Note: Architecture does not relate to a specific industry division (2 digit SIC). Instead it is based on the DCMS Creative Industries definition which is based on sub-classes (4 digit SIC). Source: ONS Regional GVA (balanced)

Additionally, architecture has grown at a faster average rate than the creative industries more widely and the all-sector average in London. For example, between 2009 and 2016, architecture

[26] For more information about SIC codes and the type of activities that are included in these divisions, see: http://www.neighbourhood.statistics.gov.uk/HTMLDocs/SIC/ONS_SIC_hierarchy_view.html

GVA has grown at an average annual rate of 7.7 per cent in real terms. This compared with 7.3 per cent for the creative industries and 3.2 per cent for London overall.

Figure 8: Index of GVA by industry for London between 2009 and 2016, constant 2015 prices, 100 = 2009



Source: ONS Regional GVA (balanced), ONS Business Register and Employment Survey, GLA Economics

4 Labour market

Key points

- There were approximately 26,200 jobs in London's Architecture sector in 2016. While up from 2015, it remains lower than the peak of 34,100 jobs in 2010. More than a quarter of jobs in the UK's Architecture sector were in London.
- London had 27,600 architect occupations – regardless of sector – in 2016. Similarly, more than a quarter of architects in the UK were based in London.
- Combining the two definitions, there were approximately 15,000 architects in London's Architecture sector in 2016. This means that more than half of the jobs in the Architecture sector are architect occupations.
- Almost half of all jobs in London's Architecture sector were taken by women in 2016.
- Two-fifths of jobholders in the sector were aged 16-34.
- Looking at the wider Architecture and engineering sector, the workforce was less ethnically diverse than the London all-sector average between 2014 and 2016.
- Similarly, a lower percentage of jobholders in London's Architecture and engineering sector had a non-Christian religion than the London all-sector average.
- There was no statistical difference in the percentage of jobholders with a disability between London's Architecture and engineering sector and the all-sector average.
- One-third of jobholders in London's Architecture sector specifically had a non-UK nationality in 2016. Specifically, 24.1 per cent had an EU27 nationality other than the UK.
- The gross median hourly wage excluding overtime in London's Architecture sector was £18.33 in 2017. That was higher than the average for all jobs in London.

This chapter provides an overview of employment and the labour market characteristics of the workforce in London's Architecture sector. Additional information about the socio-economic characteristics of the workforce – such as by ethnicity, religion and disability – is also now provided in this update.

Employment in London's Architecture sector can be defined in one of three ways. It could refer to the total number of jobs in the Architecture sector and include HR and finance occupations; it could refer to architect jobs only, but in any sector; or it could refer to architect jobs within the Architecture sector. All three definitions are used in this chapter.

It should also be noted that the jobs data used in this chapter comes from the ONS Annual Population Survey. This is consistent with the approach taken in the GLA Economics Creative Industries Updates, as well as the DCMS Sectors Economic Estimates releases. It allows for more comprehensive data about the characteristics of the workforce, like their age and gender. However, this is inconsistent – and thus not directly comparable – with other pieces of analysis

that uses different job estimates (i.e. the ONS Workforce Jobs series) such as GLA Economics Labour Market Projections.

Number of jobs

There were approximately 26,200 jobs in London's Architecture sector in 2016. This figure includes HR and finance jobs. Although up from the estimate for 2015, it remains lower than the peak of 34,100 jobs recorded in 2010. Generally, London has historically had more than a quarter of all jobs in the UK's Architecture sector.

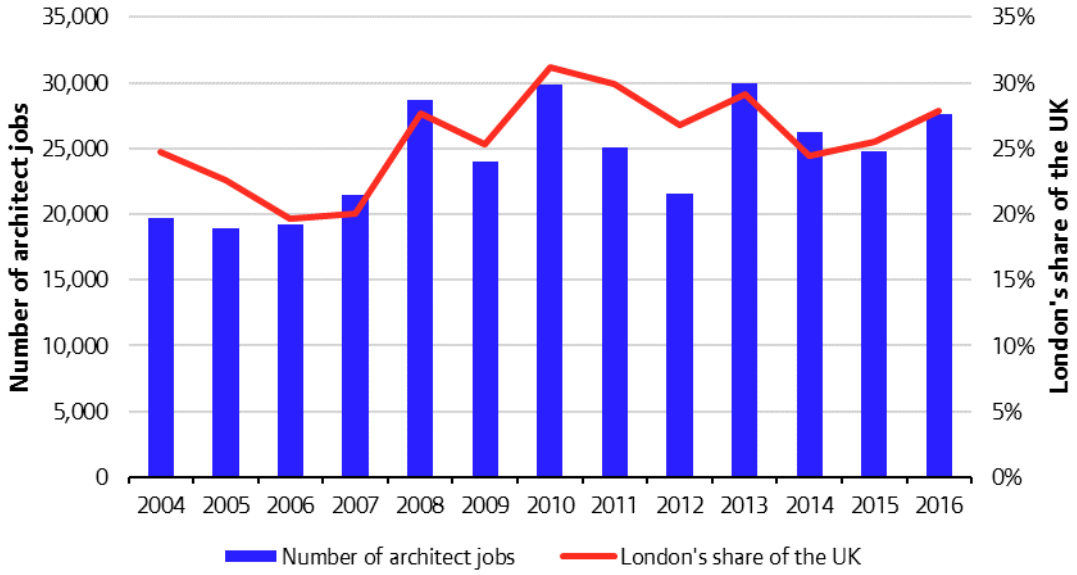
Table 7: Number of jobs in the Architecture sector by UK region between 2009 and 2016

UK region	2009	2010	2011	2012	2013	2014	2015	2016
North East	2,400	2,500	2,400	2,400	2,100	3,200	1,800	1,900
North West	8,600	6,900	6,400	9,300	8,500	6,000	6,900	8,800
Yorkshire & Humber	5,700	7,400	5,500	3,600	4,600	5,100	7,200	5,600
East Midlands	6,100	6,400	6,600	4,900	3,300	2,000	3,700	6,300
West Midlands	5,800	4,200	3,700	6,200	5,000	6,100	4,900	7,200
East	10,600	7,000	9,200	7,800	11,700	10,800	7,300	6,500
London	**24,300**	**34,100**	**29,500**	**25,900**	**26,700**	**27,100**	**23,500**	**26,200**
South East	10,900	8,600	10,100	9,700	12,000	16,000	13,600	13,700
South West	8,400	8,000	7,300	6,700	7,000	9,200	6,500	7,100
Wales	2,600	2,100	3,600	3,000	3,500	3,300	3,600	2,500
Scotland	9,000	8,900	7,700	9,500	8,400	9,800	10,100	8,900
Northern Ireland	1,300	2,000	1,800	1,600	1,000	2,900	2,300	2,400
UK total	**96,100**	**98,400**	**94,500**	**90,700**	**94,100**	**101,900**	**91,400**	**97,900**
London share of UK	25.4%	34.8%	31.4%	28.6%	28.5%	26.7%	25.8%	26.9%

Source: ONS Annual Population Survey

Alternatively looking at the number of architect occupations in London, there were around 27,600 jobs in 2016. A longer time-series is available using this definition and suggests that the number of architect jobs in London has, on the whole, been growing over time (Figure 9).

Figure 9: Number of architect jobs in London between 2004 and 2016



Source: ONS Annual Population Survey

London's share of the UK total number of architect jobs was 27.9 per cent in 2016. Historically, London has largely had more than a quarter of all architect jobs, which is the highest share for any UK region (Table 8).

Table 8: Number of architect jobs by UK region between 2009 and 2016

UK region	2009	2010	2011	2012	2013	2014	2015	2016
North East	2,900	2,500	1,600	1,900	2,200	2,600	3,300	3,100
North West	8,400	6,300	7,600	8,700	8,500	6,300	5,300	9,900
Yorkshire & Humber	6,600	8,700	5,300	3,100	4,800	6,500	7,300	5,900
East Midlands	4,900	4,300	3,700	3,300	4,000	4,200	5,700	6,300
West Midlands	3,900	3,600	4,100	5,000	5,600	5,300	6,900	4,800
East	10,100	7,800	5,900	6,200	10,300	8,400	5,300	5,200
London	**24,000**	**29,900**	**25,100**	**21,600**	**30,000**	**26,200**	**24,800**	**27,600**
South East	11,800	9,800	9,400	8,000	11,500	17,400	13,200	13,700
South West	8,100	9,300	6,300	5,300	8,500	9,800	7,100	8,300
Wales	3,500	2,700	3,600	3,400	3,700	3,700	3,400	3,300
Scotland	9,500	7,800	8,000	11,000	10,200	12,800	12,400	9,100
Northern Ireland	1,200	3,300	3,500	3,100	3,700	4,000	2,400	1,900
UK total	**95,400**	**96,400**	**85,200**	**81,400**	**103,400**	**107,400**	**97,400**	**99,700**
London share of UK	25.3%	31.2%	29.9%	26.8%	29.1%	24.5%	25.6%	27.9%

Source: ONS Annual Population Survey

Meanwhile, in 2016, there were 15,000 jobs in London when using a strict definition of architect jobs in the Architecture sector (Table 9). Due to small samples, it is not possible to present this information for the other UK regions. That said, London typically has more than a quarter of all architect jobs in the Architecture sector across the UK.

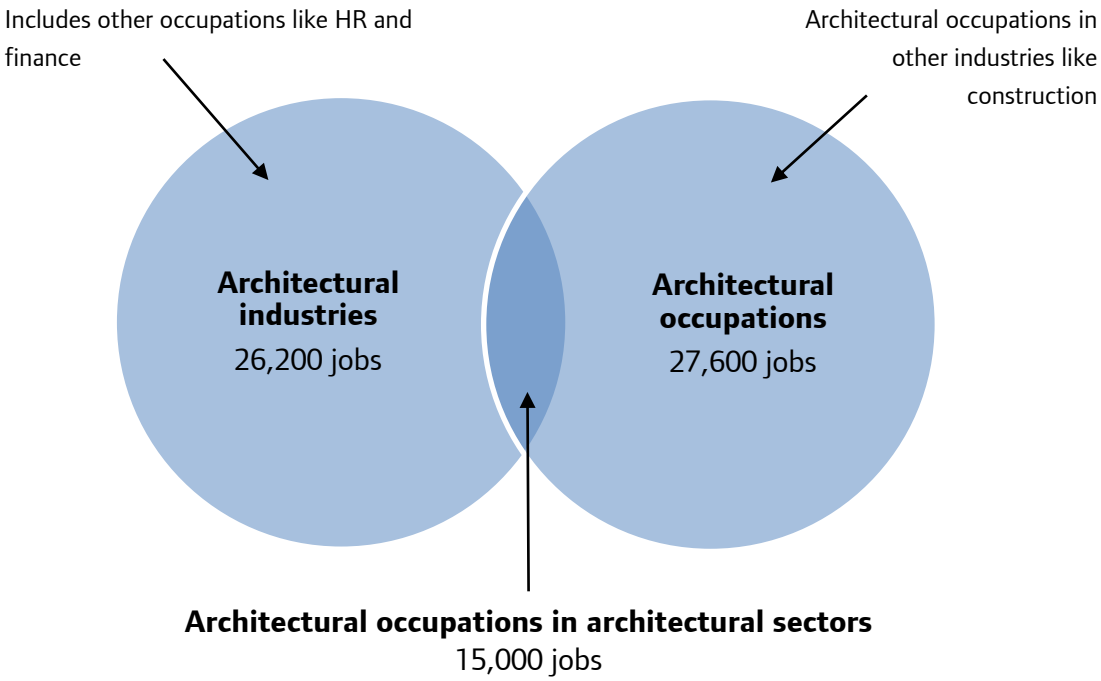
Table 9: Number of architect jobs in the Architecture sector in London between 2009 and 2016

UK region	2009	2010	2011	2012	2013	2014	2015	2016
London	16,800	22,500	20,900	13,300	18,700	15,900	12,600	15,000
UK total	**57,800**	**61,200**	**56,100**	**50,000**	**60,400**	**63,700**	**49,700**	**51,600**
London share of UK	29.1%	36.8%	37.3%	26.5%	31.0%	25.0%	25.4%	29.2%

Source: ONS Annual Population Survey

Altogether, Figure 10 shows the various ways that the number of jobs in London's Architecture sector can be categorised.

Figure 10: Number of jobs in London's Architecture sector in 2016



Note: Not drawn to scale. Source: ONS Annual Population Survey

Looking at this overlap in greater detail, more than half of all jobs in London's Architecture sector were architect occupations. For example, in 2016, 57.5 per cent of all jobs in London's Architecture sector were architect occupations implying the remaining 42.5 per cent of jobs were non-architect occupations like HR and finance. Or, put a different way, more than half of all architect jobs in London were in the Architecture sector. That is, 54.5 per cent of all architect jobs in London were in the Architecture sector implying the remaining 45.5 per cent were in other industries like construction.

Employment status

Most of the jobs in London's Architecture sector were employees (also including Government trainees and unpaid family workers), with 83.8 per cent of the jobs in 2016. The remaining 16.2 per cent of jobs were taken by self-employed workers. It is a similar trend for the UK, though usually with a higher percentage of self-employed workers. On a year-on-year basis, the share of self-employed workers in London's Architecture sector dropped from 30.7 per cent in 2015.

However, generally since 2009 and ignoring year-on-year fluctuations, the percentage of self-employed workers has hovered on average around 22 per cent.

Table 10: Percentage of jobs in the Architecture sector by employment status between 2009 and 2016

Employment status	2009	2010	2011	2012	2013	2014	2015	2016
London								
Employees*	80.5%	76.4%	73.1%	82.3%	77.9%	82.2%	69.3%	83.8%
Self-employed	19.5%	23.6%	26.9%	17.7%	22.1%	17.8%	30.7%	16.2%
UK								
Employees*	75.1%	71.2%	73.6%	72.7%	68.9%	72.5%	70.3%	74.3%
Self-employed	24.9%	28.8%	26.4%	27.3%	31.1%	27.5%	29.7%	25.7%

Note: Employees also includes Government trainees and unpaid family workers. Source: ONS Annual Population Survey

It is a similar picture when looking at architect jobs in any sector. Approximately 84.1 per cent of architect jobs in London were taken by employees (including Government trainees and unpaid family workers), with the remaining 15.9 per cent taken by self-employed workers. Again, there is usually a higher percentage of self-employed workers at the UK-level. In comparison to 2015, the share of self-employed architects in London has declined from 21.6 per cent and this continues the downward trend from the recent highs of 28 per cent in 2011 and 2012.

Table 11: Percentage of architect jobs in any sector by employment status between 2009 and 2016

Employment status	2009	2010	2011	2012	2013	2014	2015	2016
London								
Employees*	82.1%	75.6%	71.9%	71.8%	80.8%	79.1%	78.4%	84.1%
Self-employed	17.9%	24.4%	28.1%	28.2%	19.2%	20.9%	21.6%	15.9%
UK								
Employees*	76.8%	71.8%	72.4%	71.7%	72.8%	72.0%	72.5%	74.9%
Self-employed	23.2%	28.2%	27.6%	28.3%	27.2%	28.0%	27.5%	25.1%

Note: Employees also includes Government trainees and unpaid family workers. Source: ONS Annual Population Survey

Socio-economic characteristics of jobholders

This section looks at the characteristics of the jobholders working in the Architecture sector. Given the ambitions of the Mayor to ensure that the city works for all Londoners[27], this section looks at additional socio-economic characteristics than the previous report. Previously, only gender and age were considered, but this update now also includes ethnicity, religion and disability among others.

There are other socio-economic and protected characteristics that are important and of interest. However, issues around statistical accuracy and confidentiality (see Box 1) means that these cannot be analysed for the Architecture sector. For example:

[27] For example, see: Mayor of London (2016). A city for all Londoners, October 2016.

- Socio-economic class
  Ideally this would look at the socio-economic background of jobholders working in London's Architecture sector. That is to see whether these jobs are being accessed by people from deprived backgrounds for example. However, official data captures socio-economic class using the National Statistics Socio-Economic Classification (NS-SEC)[28]. This measures the employment relations and conditions of occupations. Consequently, it is mostly based on the occupation of jobholders rather than their background. Not only is this less useful in terms of the policy context, but there is also little variation in occupations when looking at the Architecture sector specifically. That is, most jobs would be professional or associate professional occupations. This makes it more difficult in identifying statistically significant differences among jobholders, as well as raising issues around confidentiality.

- Sexual orientation
  Around 3.2 per cent of people in London identified as lesbian, gay, bisexual or 'other' (LGBTQ) in 2016[29]. That was the highest share for any UK region and compared against a UK average of 2.5 per cent. However, given this, it would not be feasible to look at the number of jobholders in London's Architecture sector as the sample size would become too small to produce any reliable estimates.

- Other protected characteristics
  The Equality Act 2010 covers other protected characteristics including being married or in a civil partnership, trans people and being pregnant or on maternity leave. However, these are not included in this report because of a lack of data, small sample sizes and issues around statistical accuracy.

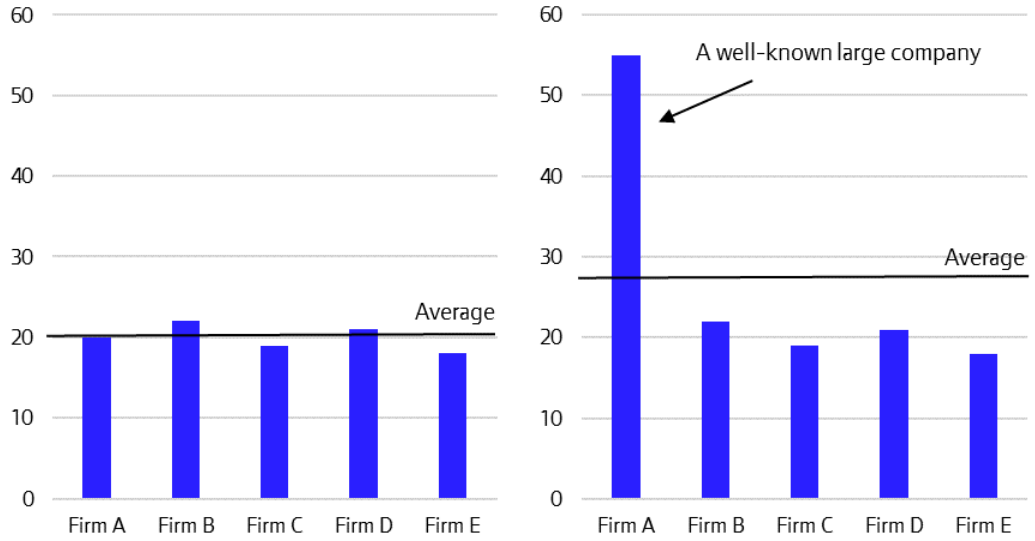
Box 1: A note on statistical accuracies

The employment data used in this paper comes from the ONS Annual Population Survey. This is the largest household survey run by the ONS with a survey sample of approximately 320,000 respondents. Consequently, it is ideal for this type of analysis as it can be used to produce granular estimates, but there are limits to the level of detail that can be provided.

The issue with granularity is that the information is based on fewer and fewer responses with each attribute. Already, the 320,000 survey responses are broken down to only those from London and again to look only at the Architecture sector. Therefore, breaking this down further to look at a socio-economic characteristic may mean that the actual number of responses is too small to be considered reliable and accurate. For example, if the sample size was too small, then the estimate could be greatly affected by any anomalies (see Figure 11). It could also be relatively easy to identify the person or business responding to the survey breaking confidentiality rules among other issues.

[28] For more information, see:
https://www.ons.gov.uk/methodology/classificationsandstandards/otherclassifications/thenationalstatisticssocioeconomicclassificationnssecrebasedonsoc2010
[29] ONS Sexual identity statistical bulletin. The total includes responses of do not know and did not respond.

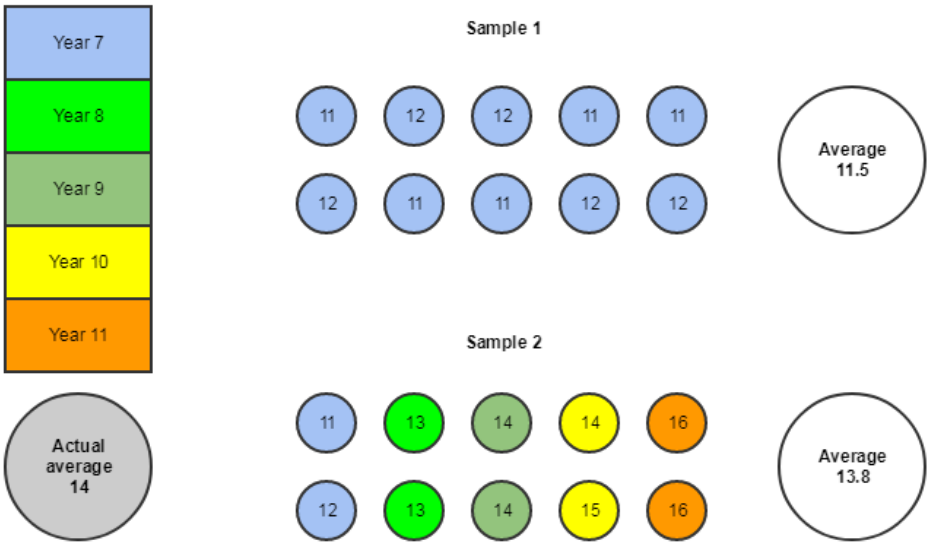
Figure 11: Issues with small samples



An issue with all surveys is that they are based on a sample of the wider population. For the survey to be accurate, this sample needs to be representative of the wider population. Depending on the survey, this can include likeness in terms of gender, age and sector composition for example. Generally, larger sample sizes will look more like the wider population, but small sample sizes are at danger of being unrepresentative. Consequently, the survey results may not be relevant to the wider population.

As an example, let's imagine you want to find the average age of students at a secondary school that includes pupils from age 12 to 16. The actual average age is 14. However, if you only survey a Year 7 class, you might get the average age of 12. That is because this sample does not reflect all the other year groups. If instead you survey a few individuals in each year group, you might get the average age of 13.8 which is much closer to the actual average.

Figure 12: Issues with sampling



Given the above potential issues, estimates are presented with additional statistics that show how accurate they are. The most common is the margin of error which shows the range of which, given a certain level of confidence, the 'true' or actual value may lie within. In the example above, the margin of error could have been +/- 0.5 which would give a range of 13.3 to 14.3 and includes the actual estimate of 14. Linked to this is the coefficient of variance which shows the probability of the true value not being within this range.

Empirically, the margin of error and coefficient of variance are influenced by the size of the sample[30]. That is, the smaller the sample, the larger the margin of error and coefficient of variance. A rule of thumb with using these statistics are:

Table 12: Using margin of errors and coefficients of variance

Margin of error	Coefficient of variance	Implications
Very low	Less than 5%	Estimates are considered precise
Low	5% to 10%	Estimates are considered reasonably accurate
Medium	10% to 20%	Estimates are considered acceptable
High	More than 20%	Estimates are considered unreliable

There are potential solutions to overcome the issues with small samples, including:

- Limit the number of breakdowns, such as looking at white and all other ethnicities instead of all ethnic groups individually.
- Use a higher-level of aggregation, such as a broader industry definition.
- Look at the survey results as an average over several years thereby increasing the number of responses.
- Present the results for the UK rather than London.

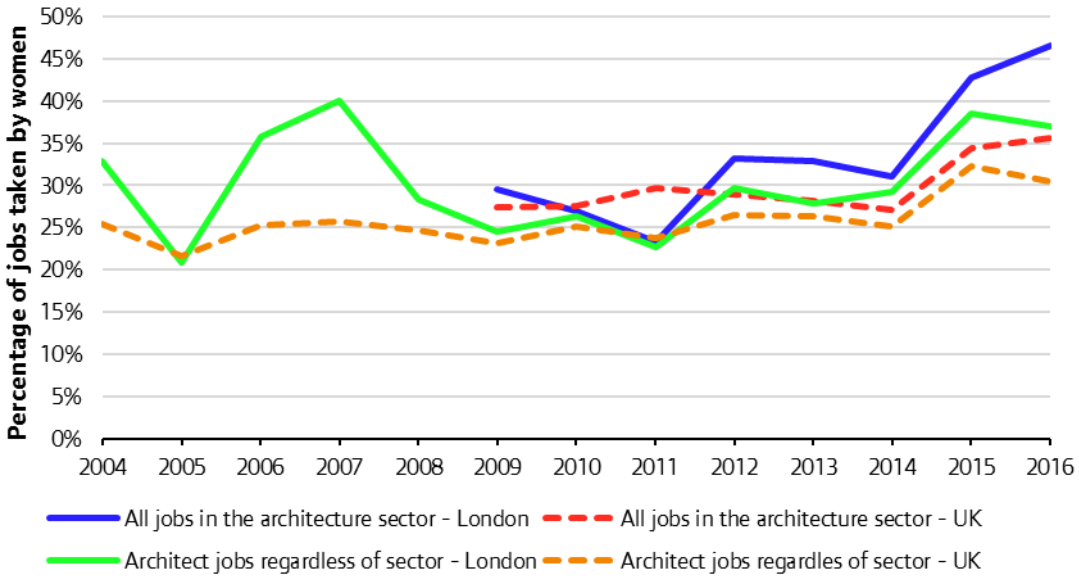
In this Working Paper, a variety of these methods have been used to present data on London's Architecture sector. However, it could be the case that the degree of confidence is too low for some indicators and, consequently, these estimates have not been reported.

Starting with **gender**, the share of jobs taken by women in London's Architecture sector was 46.6 per cent in 2016. While broadly equal, this has not always been the case with the share being 29.6 per cent in 2009 before falling to a low of 23.3 per cent in 2011. Comparably, around 35.7 per cent of all jobs in the UK's Architecture sector were taken by female jobholders in 2016.

Looking at all architect jobs regardless of sector, women took 37 per cent of all jobs in London for 2016. That is higher than for 2004 when the share was 32.9 per cent. Moreover, London usually has a higher share of female workers than the UK.

[30] The margin of error can be calculated by taking the critical value for the desired confidence level and dividing with the square root of the sample size. For example, the critical value associated with the 95 per cent confidence level is 0.98. If the sample size was 10,000 and the estimate was 10 per cent, then the margin of error would be 10 per cent ± 1 per cent (0.98 / √10,000). However, if the sample size was half that at 5,000, the margin of error would be larger at 10 per cent ± 1.4 per cent. Consequently, the margin of error gets larger as the sample size gets smaller.

Figure 13: Percentage of jobs taken by women between 2004 and 2016



Source: ONS Annual Population Survey

Jobs information by **age** is only possible by the 16-34, 35-54 and 55 or over age groups. Of this, the largest age groups for people working in London's Architecture sector were 16-34 and 35-54. Approximately 42.4 per cent and 44.9 per cent of all jobs were in these groups respectively in 2016 with only 12.7 per cent of jobs taken by people aged 55 or over. London's workforce in the Architecture sector is typically younger than the rest of the UK (Table 13). For example, while 12.7 per cent of jobholders in London's Architecture sector were aged 55 or over in 2016, this share was 20.1 per cent for the UK.

Table 13: Percentage of jobs in the Architecture sector by age group between 2009 and 2016

	2009	2010	2011	2012	2013	2014	2015	2016
London								
16-34yrs	42.7%	46.9%	34.7%	33.2%	27.1%	43.3%	30.6%	42.4%
35-54yrs	39.1%	42.6%	52.0%	53.4%	52.2%	43.4%	56.7%	44.9%
+55yrs	18.3%	10.5%	13.3%	13.4%	20.7%	13.4%	12.7%	12.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
UK								
16-34yrs	30.9%	29.6%	26.6%	28.9%	24.5%	34.8%	27.7%	33.2%
35-54yrs	44.4%	44.1%	50.2%	48.4%	45.6%	41.3%	47.6%	46.8%
+55yrs	24.6%	26.3%	23.2%	22.7%	29.9%	24.0%	24.6%	20.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: ONS Annual Population Survey

It is a similar trend when looking at the number of architect jobs regardless of sector. Around half of all jobs (50.8 per cent) in London were taken by people aged 35-54 in 2016. This was followed by two-fifths (40 per cent) who were aged 16-34. This means that less than 10 per cent of jobs were taken by people aged 55 or over in London during 2016. Additionally, London's architects tend to be younger than the UK, with 9.2 per cent of jobholders 55 or over in London compared with 16.1 per cent for the UK (Table 14).

Table 14: Percentage of architect jobs regardless of sector by age group between 2004 and 2016 (every two years)

	2004	2006	2008	2010	2012	2014	2016
London							
16-34yrs	45.7%	52.8%	52.9%	48.6%	28.9%	43.9%	40.0%
35-54yrs	39.0%	28.1%	37.4%	41.6%	55.4%	45.1%	50.8%
+55yrs	15.3%	19.1%	9.8%	9.8%	15.7%	11.1%	9.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
UK							
16-34yrs	38.7%	35.1%	41.2%	36.3%	31.7%	34.4%	32.5%
35-54yrs	40.0%	43.7%	40.3%	41.7%	46.2%	47.6%	51.3%
+55yrs	21.2%	21.2%	18.5%	22.0%	22.1%	18.0%	16.1%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: ONS Annual Population Survey

The **nationality** of jobholders can be assessed in terms of whether they are citizens of the UK, rest of the EU27 group or elsewhere in the world. One-third (33.3 per cent) of all jobs in London's Architecture sector were taken by people with a non-UK nationality in 2016. Specifically, 24.1 per cent of jobholders had EU27 (excluding UK) nationality and 9.2 per cent had any other nationality (Table 15). These were more than double the shares for the UK of 8.8 per cent and 3.2 per cent respectively. However, this is reflective of London historically having a more diverse workforce than the UK across all sectors[31].

Table 15: Percentage of jobs in the Architecture sector by nationality between 2009 and 2016

	2009	2010	2011	2012	2013	2014	2015	2016
London								
UK	74.8%	74.0%	73.7%	82.3%	79.6%	68.8%	67.1%	66.7%
EU27 (excluding UK)	17.8%	14.3%	11.8%	10.0%	6.7%	25.3%	24.3%	24.1%
Other nationality	7.4%	11.7%	14.5%	7.7%	13.8%	5.8%	8.6%	9.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
UK								
UK	90.9%	88.8%	89.2%	91.2%	91.2%	88.1%	88.9%	88.0%
EU27 (excluding UK)	6.0%	5.7%	5.7%	4.9%	3.3%	9.3%	7.7%	8.8%
Other nationality	3.1%	5.5%	5.1%	3.9%	5.5%	2.5%	3.4%	3.2%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: ONS Annual Population Survey

It is a similar trend when looking at architect occupations regardless of sector. Approximately 31.3 per cent of architect jobs in London were taken by people with a non-UK nationality in 2016. That is up from 24.3 per cent in 2004. It was also more than double the equivalent share for the UK (14 per cent) in 2016, though London is generally more ethnically diverse anyway as noted above. Specifically, 27.3 per cent of architect jobholders in London had an EU27 (excluding the UK) nationality and an additional 4 per cent had any other non-UK nationality (Table 16).

[31] Using a slightly different methodology, the percentage of people in employment across all sectors in London who had a non-UK nationality was around 24 per cent during 2014 to 2016. This compared with a share of around 10 per cent for the UK. See: Table 17

Table 16: Percentage of architect jobs regardless of sector by nationality between 2004 and 2016 (every two years)

	2004	2006	2008	2010	2012	2014	2016
London							
UK	75.7%	71.4%	70.3%	66.7%	82.6%	75.8%	68.7%
EU27 (excluding UK)	11.9%	9.9%	16.2%	20.3%	7.3%	17.2%	27.3%
Other nationality	12.4%	18.6%	13.5%	13.0%	10.1%	7.1%	4.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
UK							
UK	89.3%	91.0%	86.8%	87.1%	91.5%	90.7%	86.0%
EU27 (excluding UK)	4.8%	3.7%	6.0%	7.2%	3.9%	6.9%	11.1%
Other nationality	5.9%	5.3%	7.2%	5.6%	4.6%	2.4%	2.9%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Note: data for every year is available. Source: ONS Annual Population Survey

Information for the other socio-economic characteristics (ethnicity, religion and disability) is limited due to data constraints (see Box 1). Consequently, this data looks at the 2014 to 2016 period only rather than a single year. It is also presented for the Architecture sector specifically, but also wider industry definitions to provide more robust estimates. Given this, Table 17 shows the proportion of jobs in London's Architecture sector that are taken by people with specific socio-economic characteristics. Gender and nationality are also included in this table but, given it looks at the 2014-2016 period, is not directly comparable with the above statistics. The information is also shown for the UK for comparability.

Table 17: Proportion of jobs by socio-economic characteristics in London's Architecture sector between 2014 and 2016

Industry	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London					
All sectors	44% ± 1%	31% ± 1%	19% ± 1%	10%	24% ± 1%
M: Professional, scientific and technical activities	42% ± 2%	21% ± 2%	14% ± 2%	8% ± 1%	19% ± 2%
71: Architect and engineer activities.; technical testing and analysis	30% ± 5%	17% ± 4%	12% ± 4%	9% ± 3%	21% ± 5%
71.1 Architectural and engineering activities	30% ± 6%	16% ± 5%	12% ± 4%	9% ± 3%	21% ± 5%
71.11 Architecture	**40% ± 11%**	**--**	**--**	**--**	**36% ± 11%**
UK					
All sectors	47%	11%	8%	12%	10%
M: Professional, scientific and technical activities	43% ± 1%	10% ± 1%	8% ± 1%	10% ± 1%	10% ± 1%
71: Architect and engineer activities.; technical testing and analysis	25% ± 2%	7% ± 1%	6% ± 1%	9% ± 1%	9% ± 1%
71.1 Architectural and engineering activities	24% ± 2%	7% ± 1%	6% ± 1%	9% ± 1%	9% ± 1%
71.11 Architecture	**33% ± 5%**	**6% ± 2%**	**--**	**9% ± 3%**	**12% ± 3%**

Note: Margins of errors shown after estimate. Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

Table 17b: Statistical differences with the London/UK all-sector average between 2014 and 2016

Industry	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London					
All sectors	N/A	N/A	N/A	N/A	N/A
M: Professional, scientific and technical activities	No difference	Below LN average	Below LN average	Below LN average	Below LN average
71: Architect and engineer activities.; technical testing and analysis	Below LN average	Below LN average	Below LN average	No difference	No difference
71.1 Architectural and engineering activities	Below LN average	Below LN average	Below LN average	No difference	No difference
71.11 Architecture	**No difference**	**--**	**--**	**--**	**No difference**
UK					
All sectors	N/A	N/A	N/A	N/A	N/A
M: Professional, scientific and technical activities	Below UK average	Below UK average	No difference	Below UK average	No difference

71: Architect and engineer activities.; technical testing and analysis	Below UK average	Below UK average	Below UK average	Below UK average	No difference
71.1 Architectural and engineering activities	Below UK average	Below UK average	Below UK average	Below UK average	No difference
71.11 Architecture	**Below UK average**	**Below UK average**	**--**	**No difference**	**No difference**

Note: Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

Table 17c: Statistical differences between London and the UK between 2014 and 2016

Industry	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London versus UK					
All sectors	Below UK	Above UK	Above UK	Below UK	Above UK
M: Professional, scientific and technical activities	No difference	Above UK	Above UK	Below UK	Above UK
71: Architect and engineer activities.; technical testing and analysis	No difference	Above UK	Above UK	No difference	Above UK
71.1 Architectural and engineering activities	No difference	Above UK	Above UK	No difference	Above UK
71.11 Architecture	**No difference**	**--**	**--**	**--**	**Above UK**

Note: Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

From Table 17, it can be inferred:

- Between 2014 and 2016, there was no statistical difference between the share of female jobholders in London's Architecture sector and the all-sector average. There was also no statistical difference between London's and the UK's Architecture sector.

- The proportion of BAME jobholders in London's Architecture and engineering sector was 16 per cent (± 5 per cent) between 2014 and 2016. This was below the all-sector average for London of 31 per cent (± 1 per cent), though there is low confidence in this comparison. That said, London's Architecture and engineering sector was more ethnically diverse than the UK's (7 per cent, ± 1 per cent).

- Around 12 per cent (± 4 per cent) of jobholders in London's Architecture and engineering sector had a non-Christian religion (excluding atheists) between 2014 and 2016. That was lower than the London all-sector average, though there is low confidence in this comparison. However, this share was higher than for the UK (6 per cent, ± 1 per cent).

- Approximately 9 per cent (± 3 per cent) of jobholders in London's Architecture and engineering sector were disabled between 2014 and 2016. There was no statistical difference with the London all-sector average or the UK's Architecture and engineering sector, though there is low confidence with these comparisons.

- There was no statistical difference in the proportion of non-UK nationals working in London's Architecture sector with the all-sector average between 2014 and 2016. That said, London's Architecture sector was more internationally diverse than the UK's.

The socio-economic characteristics can also be analysed looking at all architect occupations regardless of sector. This is shown in Table 18. Like above, the information is presented for wider job definitions and for the UK for comparability.

Table 18: Proportion of architect jobs regardless of sector by socio-economic characteristics in London between 2014 and 2016

Occupation	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London					
All occupations	44% ± 1%	31% ± 1%	19% ± 1%	10%	24% ± 1%
2: Professional occupations	45% ± 2%	28% ± 1%	18% ± 1%	8% ± 1%	20% ± 1%
3: Associate professional occupations	42% ± 2%	23% ± 2%	13% ± 1%	8% ± 1%	18% ± 1%
24: Business, media and public service professionals	40% ± 3%	22% ± 2%	15% ± 2%	8% ± 1%	17% ± 2%
31: Science, engineering and technical associate professionals	26% ± 6%	31% ± 6%	19% ± 5%	9% ± 4%	21% ± 5%
243: Architects, town planners and surveyors	18% ± 6%	14% ± 5%	--	--	19% ± 6%
312: Draughtspersons and related architect technicians	--	--	--	--	--
Various: Architectural occupations	**33% ± 10%**	**--**	**--**	**--**	**31% ± 10%**
UK					
All occupations	47%	11%	8%	12%	10%
2: Professional occupations	49% ± 1%	13%	9%	10%	10%
3: Associate professional occupations	43% ± 1%	10%	7%	11%	8%
24: Business, media and public service professionals	42% ± 1%	11% ± 1%	8% ± 1%	9% ± 1%	8% ± 1%
31: Science, engineering and technical associate professionals	25% ± 2%	10% ± 1%	7% ± 1%	11% ± 1%	9% ± 1%
243: Architects, town planners and surveyors	17% ± 2%	6% ± 1%	5% ± 1%	7% ± 2%	8% ± 2%
312: Draughtspersons and related architect technicians	27% ± 5%	--	--	--	--
Various: Architectural occupations	**28% ± 4%**	**7% ± 2%**	**--**	**7% ± 2%**	**12% ± 3%**

Note: Margins of errors shown after estimate. Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

Table 18b: Statistical differences with the London/UK all-occupations average between 2014 and 2016

Occupation	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London					
All occupations	N/A	N/A	N/A	N/A	N/A
2: Professional occupations	No difference	Below LN average	No difference	Below LN average	Below LN average

3: Associate professional occupations	No difference	Below LN average	Below LN average	Below LN average	Below LN average
24: Business, media and public service professionals	Below LN average	Below LN average	Below LN average	Below LN average	Below LN average
31: Science, engineering and technical associate professionals	Below LN average	No difference	No difference	No difference	No difference
243: Architects, town planners and surveyors	Below LN average	Below LN average	--	--	No difference
312: Draughtspersons and related architect technicians	--	--	--	--	--
Various: Architectural occupations	**No difference**	**--**	**--**	**--**	**No difference**
UK					
All occupations	N/A	N/A	N/A	N/A	N/A
2: Professional occupations	Above UK average	Above UK average	Above UK average	Below UK average	No difference
3: Associate professional occupations	Below UK average	Below UK average	Below UK average	Below UK average	Below UK average
24: Business, media and public service professionals	Below UK average	No difference	No difference	Below UK average	Below UK average
31: Science, engineering and technical associate professionals	Below UK average	No difference	No difference	No difference	No difference
243: Architects, town planners and surveyors	Below UK average	Below UK average	Below UK average	Below UK average	Below UK average
312: Draughtspersons and related architect technicians	Below UK average	--	--	--	--
Various: Architectural occupations	**Below UK average**	**Below UK average**	**--**	**Below UK average**	**No difference**

Note: Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

Table 18c: Statistical differences between London and the UK between 2014 and 2016

Occupation	Female	Non-White ethnicity	Non-Christian religion	Disabled	Non-UK nationality
London versus UK					
All occupations	Below UK	Above UK	Above UK	Below UK	Above UK
2: Professional occupations	Below UK	Above UK	Above UK	Below UK	Above UK
3: Associate professional occupations	No difference	Above UK	Above UK	Below UK	Above UK
24: Business, media and public service professionals	No difference	Above UK	Above UK	No difference	Above UK
31: Science, engineering and technical associate professionals	No difference	Above UK	Above UK	No difference	Above UK
243: Architects, town planners and surveyors	No difference	Above UK	--	--	Above UK
312: Draughtspersons and related architect technicians	--	--	--	--	--
Various: Architectural occupations	**No difference**	**--**	**--**	**--**	**Above UK**

Note: Estimates in red have low confidence and should be used with caution. Non-Christian religion does not include atheists. Source: ONS Annual Population Survey

From Table 18, it can be inferred:

- Between 2014 and 2016, there was statistically no difference in the proportion of female architects in London and the UK.

- Around 14 per cent (± 5 per cent) of people working in Architect, town planners and surveyor occupations in London were black, Asian or any other minority ethnic between 2014 and 2016. That was below the London average for all occupations of 31 per cent (± 1 per cent), but there is low confidence with this comparison. However, it was above the BAME share of Architect, town planner and surveyor jobholders across the UK (6 per cent, ± 1 per cent).

- The lowest breakdown when looking at religion is Business, media and public service professional occupations[32]. Approximately 15 per cent (± 2 per cent) of these jobholders had a non-Christian religion (excluding atheists) in London between 2014 and 2016. That was marginally lower than the London average of 19 per cent (± 1 per cent), though higher than the equivalent share of Business, media and public service professional jobs across the UK of 8 per cent (± 1 per cent).

- Again, the lowest breakdown when looking at disability is Business, media and public service professional jobs. Approximately 8 per cent (± 1 per cent) of these jobholders had a disability in line with the Equalities Act 2010 definition across London between 2014 and 2016. That was only slightly lower than the London all-jobs average of 10 per cent. There was also no statistical difference between London and the UK in terms of the share of disabled Business, media and public service professional jobholders.

- Architects in London were more internationally diverse than those across the UK. That said, there was no statistical difference between the share of non-UK nationals for architect occupations and that for all jobs in the capital.

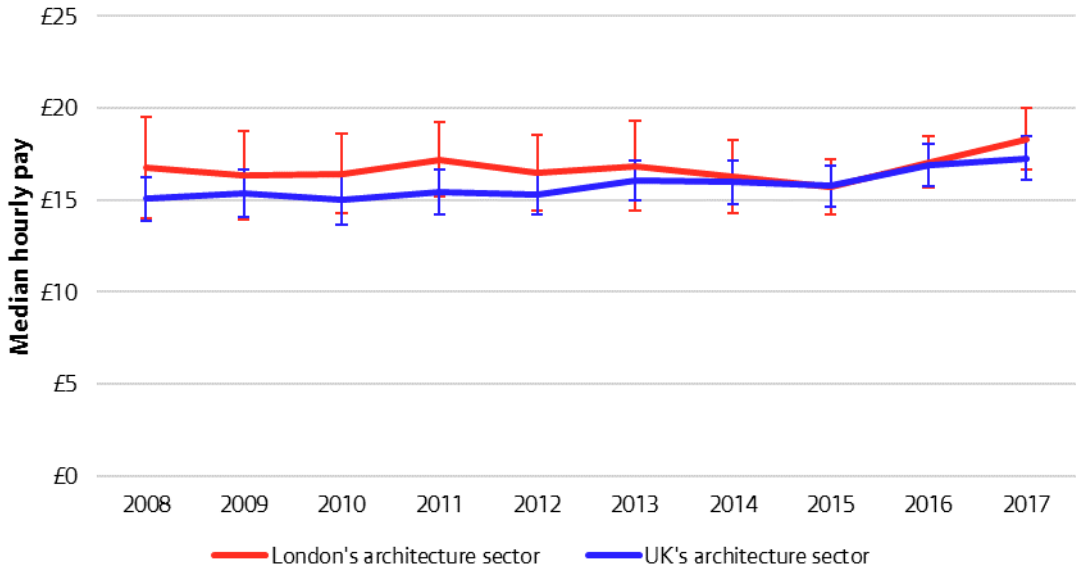
Earnings

The average (mean) hourly pay excluding overtime in London's Architecture sector (including HR and finance jobs) was £21.74 in 2017. However, given the structure of London's labour market where some workers are paid high wages and would therefore affect the mean, a better measure of average earnings uses the median. Given this, the median hourly wage in London's Architecture sector was £18.33 in 2017 (Figure 14). That was higher than the median for the UK's Architecture sector of £17.28, but this difference was not statistically significant[33]. That is, given measurement errors with any survey, London's median hourly wage could lie between £16.68 and £19.98 which overlaps with the UK's range of £16.07 and £18.49.

[32] It is also possible to look at Science, engineering and technology associate professional jobs which also feeds into the architect jobs definition. However, this forms a relatively small part of all architect jobs and therefore not discussed here. See Table 18 for the estimates instead.

[33] As these estimates are derived from a survey, there is some statistical error that the estimate derived from the survey sample is not reflective of the 'true' figure for the wider population. This difference is known as the confidence interval and shows the range around the estimate that the true figure may lie.

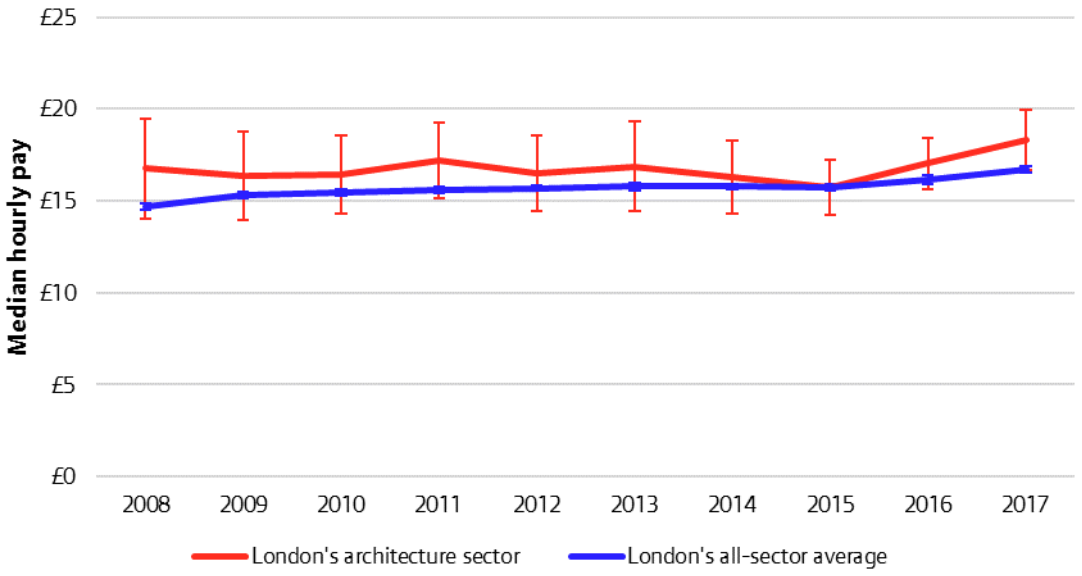
Figure 14: Median hourly pay (excluding overtime) for jobs in the Architecture sector between 2008 and 2017, current prices



Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

Jobholders in London's Architecture sector also earn more on an hourly basis than the median for all-sectors. For example, in 2017, the median wage in the Architecture sector was £18.33 (± £1.65) compared with £16.72 (± £0.17) for all sectors, though this was not statistically significant (Figure 15).

Figure 15: Median hourly pay (excluding overtime) for jobs in London between 2008 and 2017, current prices



Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

While this refers to the median, actual hourly earnings can vary within the Architecture sector itself. This is illustrated by looking at the percentile breakdowns (i.e. the 75th percentile earnings

show the wage earned by the person who sits three-quarters along the wage distribution when arranged from lowest to highest). For example, in London, the hourly wage excluding overtime in the Architecture sector was £12.31 (± £2.07) at the 10th percentile. This rose to £21.78 (± £3.88) at the 70th percentile (Table 19).

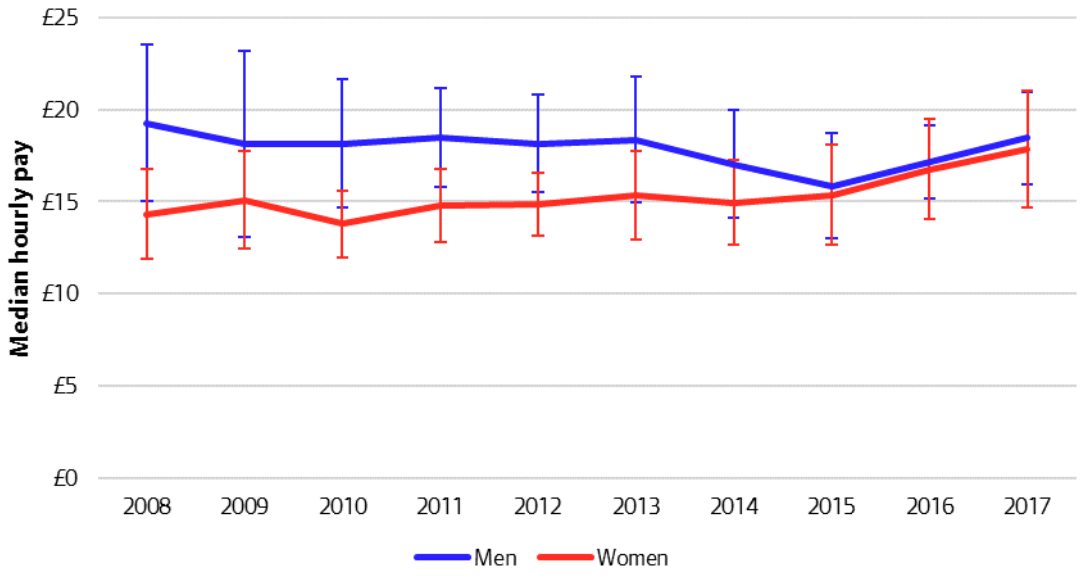
Table 19: Gross hourly pay (excluding overtime) for London's and the UK's Architecture sector by wage percentile in 2017

Wage percentile	London		UK	
	Estimate	Confidence interval	Estimate	Confidence interval
10th	£12.31	+/- £2.07	£10.47	+/- £0.80
20th	£14.60	+/- £1.78	£12.83	+/- £0.87
25th	£15.03	+/- £1.77	£13.53	+/- £1.06
30th	£16.48	+/- £1.35	£14.78	+/- £1.27
40th	£17.22	+/- £1.31	£16.32	+/- £0.88
50th	£18.33	+/- £1.65	£17.28	+/- £1.21
60th	£19.91	+/- £2.75	£19.21	+/- £1.81
70th	£21.78	+/- £3.88	£21.15	+/- £2.37
75th	x	x	£22.45	+/- £2.92
80th	x	x	£24.10	+/- £5.21
90th	x	x	x	x

Note: unreliable values are illustrated with an x. Source: ONS Annual Survey of Hours and Earnings

There is no statistical difference in median wages for men and women working in London's Architecture sector. In 2017, the median hourly wage for men was £18.47 (± £2.51), whereas for women it was £17.84 (± £3.18). However, there has been a lot of progress in closing this gender pay gap in recent years as can be seen from Figure 16.

Figure 16: Median hourly pay (excluding overtime) by gender in London's Architecture sector between 2008 and 2017, current prices



Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

The pay gap in London's Architecture sector was smaller than that for the UK's. Across the UK, the median gross hourly wage (excluding overtime) for men was £18.17 (± £1.53) in 2017, whereas for women it was £16.02 (± £1.60).

It is not possible to provide earnings data by any other socio-economic characteristic when using the ONS Annual Survey of Hours and Earnings as this information is not collected.

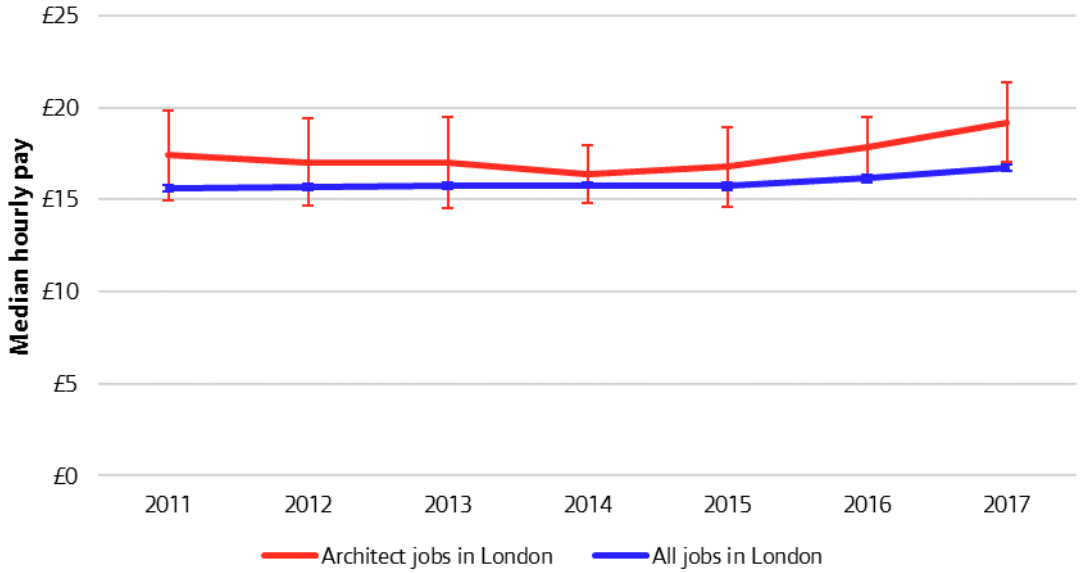
If only looking at architect jobs though in any sector, the median hourly pay excluding overtime was £19.20 (± £2.15) which was higher – though not statistically – than the Architecture sector more generally of £18.33 (± £1.65) in 2017. While it was also higher than the estimate for the UK (£17.87 ± £1.14), this difference was not statistically significant. Consequently, it cannot statistically be said that architects in London earn more than the rest of the UK (Figure 17).

Figure 17: Median hourly pay (excluding overtime) for architect jobs in any sector in London between 2011 and 2017, current prices

Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

Meanwhile, architects in London earn comparably more on an hourly basis than the average for all jobs in the capital. For example, in 2017, the median hourly pay excluding overtime was £19.20 (± £2.15) for architects which was higher than the London average of £16.72 (± £0.17). This difference is usually statistically significant as well.

Figure 18: Median hourly pay (excluding overtime) for jobs in London between 2011 and 2017, current prices



Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

The hourly wage excluding overtime does vary. For instance, at the 10th wage percentile, hourly pay in London was £12.27 (± £2.38), while at the 70th percentile it was £23.23 (± £4.27) (Table 20).

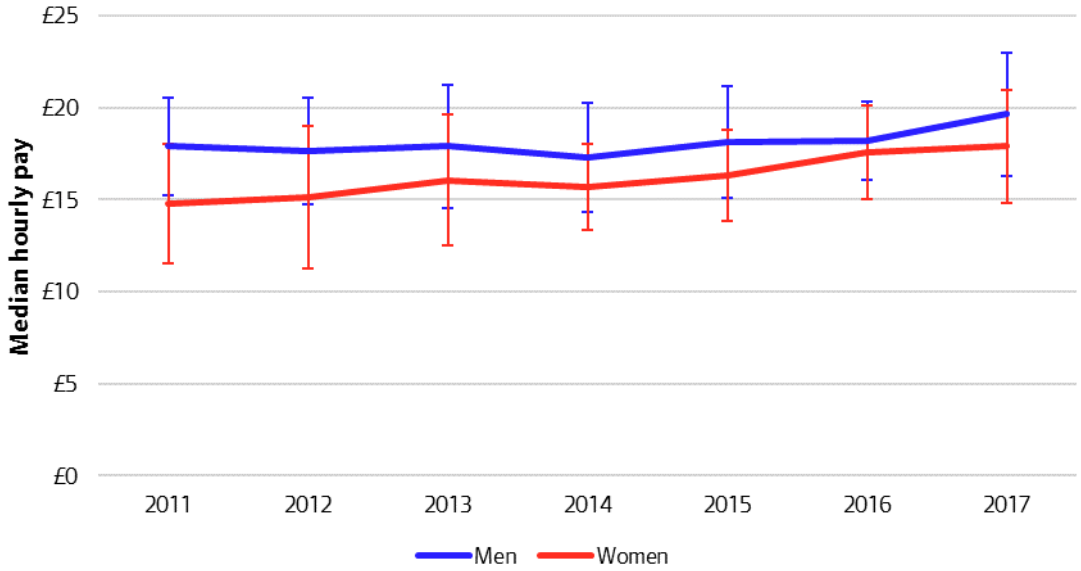
Table 20: Gross hourly pay (excluding overtime) for architect jobs in any sector in London by wage percentile in 2017

Wage percentile	London		UK	
	Estimate	Confidence interval	Estimate	Confidence interval
10th	£12.27	+/- £2.38	£11.73	+/- £0.91
20th	£14.85	+/- £2.20	£13.42	+/- £1.07
25th	£16.47	+/- £1.88	£14.58	+/- £1.25
30th	£16.79	+/- £1.48	£15.65	+/- £1.19
40th	£17.72	+/- £1.35	£16.77	+/- £0.67
50th	£19.20	+/- £2.15	£17.87	+/- £1.14
60th	£20.94	+/- £2.85	£19.34	+/- £1.35
70th	£23.23	+/- £4.27	£20.94	+/- £2.26
75th	x	x	£22.38	+/- £3.00
80th	x	x	x	x
90th	x	x	x	x

Note: unreliable values are illustrated with an x. Source: ONS Annual Survey of Hours and Earnings

There was no statistical difference in the median hourly pay excluding overtime for men and women that had architect jobs in London. During 2017, men were paid on average £19.63 (± £3.38) in London, while women were paid on average £17.90 (± £3.08). However, there has been some progress in closing this gender pay gap in recent years (Figure 19).

Figure 19: Median hourly pay (excluding overtime) for architect jobs in any sector in London by gender between 2011 and 2017, current prices



Note: Confidence intervals shown by error bars. Source: ONS Annual Survey of Hours and Earnings

5 Education

Key points

- One-in-six undergraduates and one-in-three postgraduates studying Architecture, building and planning did so in London during the 2015-16 academic year.
- Across the UK, 20.4 per cent of undergraduates and 37.6 per cent of postgraduates studying Architecture, building and planning degrees were international students.
- London is home to several highly-rated universities for architecture, including UCL which is often rated as one of the top five UK universities for architecture.
- More than half of the Architecture, built environment and planning research conducted by London-based universities is considered as being world-leading or internationally excellent.

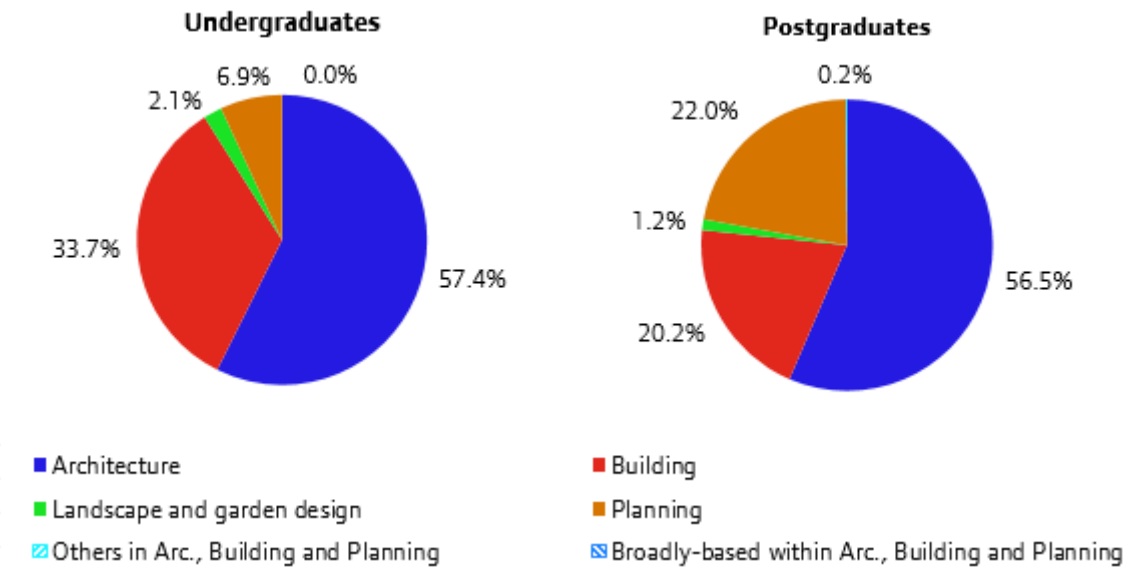
In this section, the number of students studying architecture in London and some of the reasons why they choose to study in the capital is discussed.

Students

The Higher Education Statistics Agency (HESA) collects student data from state-funded higher education institutions (HEIs). While it does not cover privately funded institutions such as the Architectural Association School of Architecture or the London School of Architecture, it is the single source of comprehensive student data. Regional information is available, though it is based on the location of HEIs which is not necessarily the same as where students were originally from or are currently living.

Overall, there were approximately 5,580 undergraduates and 5,370 postgraduates studying Architecture, building and planning degrees at London-based HEIs in the 2015-16 academic year. Of this, more than half were specifically studying architecture with the rest largely doing building or planning degrees.

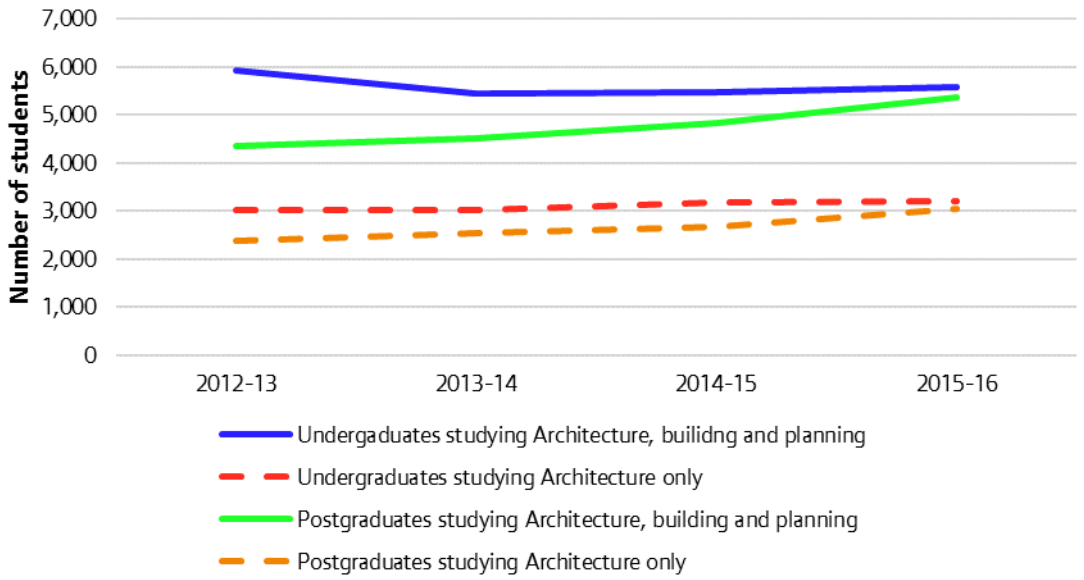
Figure 20: Percentage of undergraduates and postgraduates at London-based HEIs by Architecture, building and planning subject in 2015-16



Source: HESA Student Records

The number of undergraduates studying Architecture, building and planning has fallen in recent years, down from 5,910 students in 2012-13. In contrast, there has been a rise in postgraduates, rising from 4,340 students in 2012-13 (Figure 21).

Figure 21: Number of students studying Architecture, building and planning degrees at London-based HEIs



Source: HESA Student Records

By UK region, London had the highest shares of undergraduates and postgraduates studying Architecture, building and planning degrees in 2015-16. For example, 16.5 per cent of undergraduates and 34.7 per cent of postgraduates studying Architecture specifically did so at

London HEIs. These are higher shares than for all subjects, suggesting that London is proportionally more attractive as a place to study architecture (Tables 21 and 22).

Table 21: Percentage of undergraduates studying Architecture, building and planning degrees by UK region in 2015-16

UK region	Architecture	Building	Landscape & Design	Planning	Arch., Building & Planning total	All subjects
North East	5.9%	6.4%	0.0%	7.1%	**6.5%**	**4.6%**
North West	11.2%	13.7%	1.4%	13.8%	**12.1%**	**10.2%**
Yorks. & Humber	7.7%	8.3%	33.1%	11.0%	**8.7%**	**8.5%**
East Midlands	12.1%	9.2%	0.0%	5.9%	**10.0%**	**7.2%**
West Midlands	3.3%	8.5%	6.3%	2.5%	**5.2%**	**8.5%**
East	1.8%	7.1%	8.5%	2.8%	**4.1%**	**5.1%**
London	**19.2%**	**14.3%**	**16.2%**	**12.6%**	**16.5%**	**13.9%**
South East	11.3%	8.3%	0.0%	6.4%	**9.7%**	**16.0%**
South West	9.3%	4.9%	9.9%	12.6%	**8.0%**	**7.2%**
Scotland	12.5%	10.0%	19.7%	9.0%	**11.2%**	**10.2%**
Wales	3.1%	5.4%	4.2%	8.0%	**4.5%**	**5.9%**
Northern Ireland	2.5%	4.0%	0.0%	7.9%	**3.4%**	**2.5%**
UK	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: HESA Student Records

Table 22: Percentage of postgraduates studying Architecture, building and planning degrees by UK region in 2015-16

UK region	Architecture	Building	Landscape & Design	Planning	Arch., Building & Planning total	All subjects
North East	1.2%	7.8%	2.6%	3.4%	**3.4%**	**3.8%**
North West	6.3%	14.7%	7.0%	5.5%	**8.4%**	**9.6%**
Yorks. & Humber	6.1%	2.9%	37.4%	9.4%	**7.3%**	**8.2%**
East Midlands	7.9%	11.0%	0.0%	4.2%	**7.7%**	**6.6%**
West Midlands	2.3%	7.2%	5.2%	3.1%	**3.8%**	**8.5%**
East	1.4%	2.9%	5.2%	5.3%	**3.0%**	**6.0%**
London	**43.7%**	**27.8%**	**11.3%**	**33.2%**	**34.7%**	**22.2%**
South East	9.3%	5.4%	0.0%	6.2%	**7.3%**	**11.8%**
South West	6.8%	3.3%	10.4%	7.2%	**7.0%**	**5.9%**
Scotland	9.9%	11.9%	19.1%	12.9%	**11.6%**	**10.6%**
Wales	2.1%	2.8%	0.0%	6.9%	**3.3%**	**4.7%**
Northern Ireland	3.0%	1.8%	0.0%	2.7%	**2.4%**	**2.0%**
UK	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: HESA Student Records

The HESA Student Records data is available for individual higher education institutions, though only for those receiving state funding. This means that it might not be a complete list of providers in London. Overall, four London-based HEIs featured in the top 20 providers in the UK with the highest percentage of undergraduate students taking Architecture, building and

planning degrees in 2015-16. There were seven London-based HEIs in the equivalent list for postgraduates (Table 23).

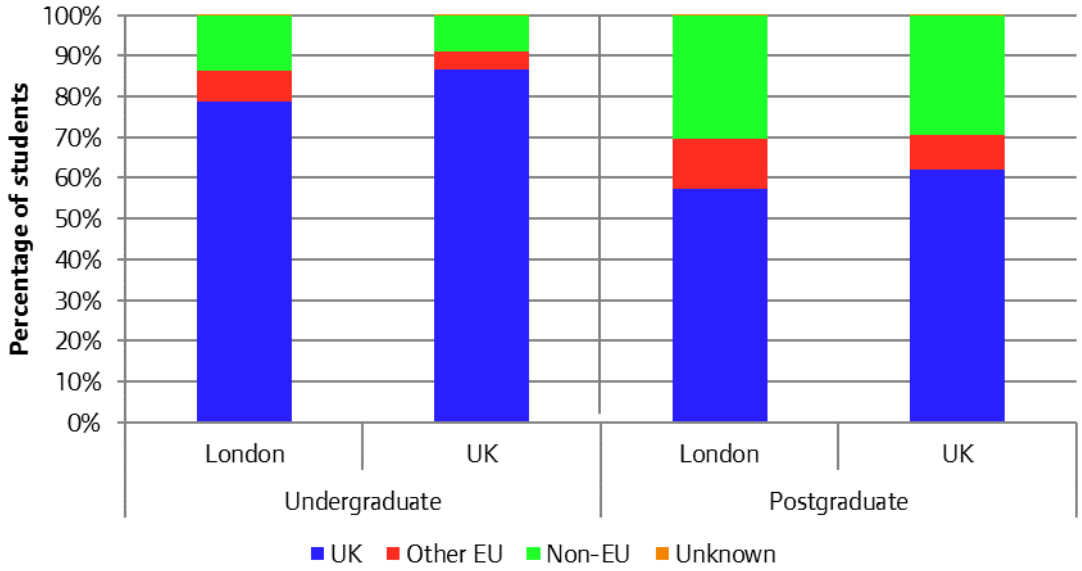
Table 23: Top 20 UK HEIs with the highest percentage of students studying Architecture, building and planning degrees in 2015-16

Rank	Undergraduate			Postgraduate		
	HEI name	Number of student	% of all student	HEI name	Number of student	% of all student
1	Royal Agricultural University	235	24.2%	Royal Agricultural University	90	38.3%
2	Glasgow School of Art	325	21.5%	Writtle University College	20	36.4%
3	**Ravensbourne**	**190**	**9.0%**	Glasgow School of Art	145	26.9%
4	Writtle University College	65	8.6%	**London Metropolitan Uni.**	**685**	**23.5%**
5	**London South Bank Uni.**	**1,020**	**8.1%**	**University of Westminster**	**960**	**23.1%**
6	**University of Westminster**	**1,230**	**7.7%**	Arts University Bournemouth	20	22.2%
7	Uni. of the West of England	1,430	6.8%	**London South Bank Uni.**	**725**	**14.5%**
8	Oxford Brookes University	830	6.0%	The University of Lincoln	275	13.4%
9	Glasgow Caledonian Uni.	800	5.8%	Oxford Brookes University	430	10.9%
10	The Robert Gordon Uni.	515	5.7%	Heriot-Watt University	320	9.6%
11	The University of Salford	860	5.5%	The University of Salford	455	9.5%
12	University of Northumbria	1,225	5.5%	**University College London**	**1,810**	**9.4%**
13	Liverpool John Moores Uni.	950	5.2%	Uni. of the West of England	605	9.1%
14	Nottingham Trent University	1,150	5.0%	University of Northumbria	370	7.8%
15	Anglia Ruskin University	865	5.0%	**Kingston University**	**350**	**7.6%**
16	Newcastle University	880	5.0%	**Royal College of Art**	**120**	**7.5%**
17	The University of Liverpool	960	4.9%	**University of Greenwich**	**340**	**7.4%**
18	University of Ulster	885	4.5%	Birmingham City University	305	7.0%
19	The University of Sheffield	870	4.4%	The University of Bath	285	7.0%
20	**London Metropolitan Uni.**	**435**	**4.4%**	Liverpool John Moores Uni.	235	6.7%

Source: HESA Student Records

Furthermore, the HESA data also provides information about the nationality of students. Across all subjects (not necessarily architecture-related), approximately 22.2 per cent of undergraduates and 42.4 per cent of postgraduates at London-based HEIs were not domiciled in the UK in the 2015-16 academic year (Figure 22). That was one of the highest shares of international students among the 12 UK regions.

Figure 22: Percentage of undergraduates and postgraduates by country of domicile and region of HEI in 2015-16, all subjects

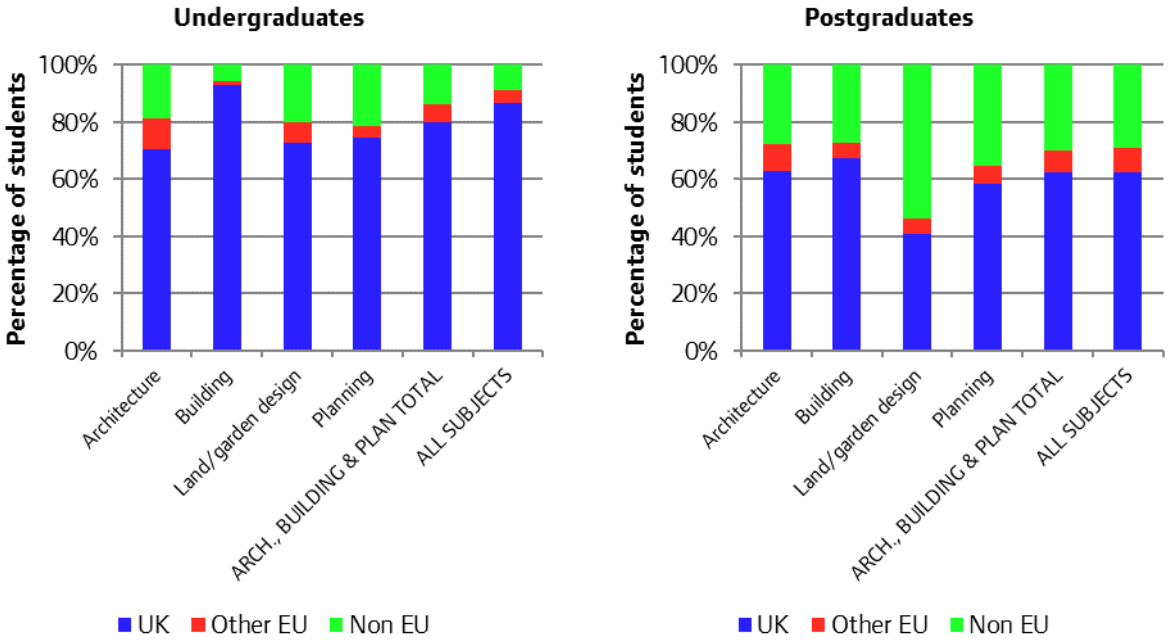


Source: HESA Student Records

While this can be split by subject area, this information is only available at the UK level. Given this, 20.4 per cent of undergraduates studying Architecture, building and planning were not domiciled in the UK prior to starting their course. This percentage was higher for postgraduates at 37.6 per cent in 2015-16. Specifically, for architecture, 29.5 per cent of undergraduates and 37.1 per cent of postgraduates studying in the UK were previously domiciled in any other country besides the UK.

As can be seen in Figure 23, a larger proportion of overseas students studying architecture-related courses at UK HEIs previously resided in non-EU countries than other EU countries besides the UK.

Figure 23: Percentage of undergraduates and postgraduates studying Architecture, building and planning degrees at UK HEIs by domicile in 2015-16

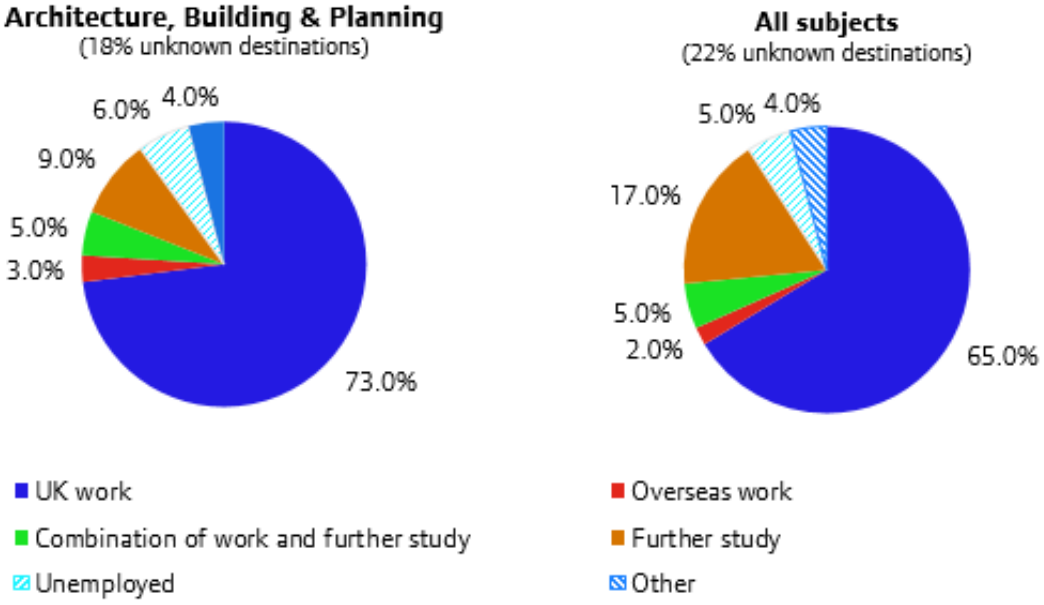


Source: HESA Student Records

Finally, HESA also collects information about the destination of students after graduation, but this only refers to those doing their full-time first degrees. Given this, almost three-quarters (76 per cent) of full-time first-degree leavers studying Architecture, building and planning degrees were either working in the UK or overseas[34]. A further 5 per cent went into a combination of work and further study, while 9 per cent went solely into further study. As can be seen in Figure 24, a larger proportion of full-time first-degree leavers studying Architecture, building and planning degrees went into work in comparison with all degree subjects, though less went on to further study.

[34] Excluding unknowns.

Figure 24: Destination of full-time first degree leavers by subject area for the UK in 2015-16, excluding unknowns



Note: the destination of some leavers is unknown. The number of unknowns as a percentage of all leavers is shown in the title. Therefore, this chart shows the percentage of destinations for known destinations only. Source: HESA Destination of Leavers

Data limitations mean that we do not know what specific jobs UK full-time first-degree leavers studying Architecture, building and planning had. That said, of those entering work in 2015-16, 89.8 per cent had professional occupations[35].

University rankings

London is home to many highly-rated universities for architecture. Several university rankings put one institution in the top 10 for architecture (namely UCL) and usually at least another institution in the top 20 and five in the top 40 (Table 24).

Table 24: Number of London-based HEIs in the top 10, 20 and 40 of UK university rankings for Architecture

Ranking	Number in top 10	Number in top 20	Number in top 40
THE World University Rankings 2018	1	3	6
The Complete University Guide League Table 2018	1	1	4
Guardian University League Table 2018	1	3	6
QS World University Rankings 2017	1	2	n/a

Source: Guardian, QS, The Complete University Guide, Times Higher Education

While the actual methodology used to calculate the rankings vary, generally these tables look at teaching quality, research, student satisfaction and employability. They also generally exclude higher education providers that are concentrated on a subject, do not receive state funding or

[35] This includes Managers, directors and senior officials, Professional and Associate professional and technical occupations.

have a small number of students on the course. Therefore, as with the HESA statistics, London-based institutions like the AA School of Architecture are not included in these rankings.

Research

Previously, Working Paper 86 looked at architectural academic research using the Research Excellence Framework (REF) [36]. It was last completed in 2014 and the next update is planned for 2021. Consequently, no new information is available for this update. Nonetheless, key points from Working Paper 86 include:

- More than half of the Architecture, built environment and planning research conducted by London-based universities was considered as being world-leading or internationally excellent.

- Approximately £7.9 million in research funding was received by London-based universities for Architecture, built environment and planning in 2012-13. That was the equivalent of 18.2 per cent of the UK total and was the largest regional share.

- Around two-fifths of total UK funding for Architectural, built environment and planning research came from UK research councils like the Royal Society and British Academy.

[36] http://www.ref.ac.uk/

6 Tourism

Key points

- Many visitors come to London to see its architectural attractions.
- Estimates suggest that 2.8 per cent of domestic overnight and 4.2 per cent of domestic day visitors to London undertook activities related to architecture.
- Overall, spending by visitors undertaking architecture-related activities was between £1 billion and £1.2 billion in 2016. This means that between £427.7 million and £497.8 million of London's GVA could be attributed to architecture-related tourism.

London is one of the most visited cities in the world, with tourists attracted by its cultural and heritage offerings among other factors. Consequently, this chapter looks at how architecture can support London's tourism industry.

Attractions

London is home to many world-renowned attractions. Some of these are known for their architectural qualities such as the Palace of Westminster and the Tate Modern. In fact, London is home to 16 of the top 20 visitor attractions in the UK according to the Association of Leading Visitor Attractions (ALVA)[37]. Some of these like the Victoria and Albert Museum and the Royal Museums Greenwich are considered architectural gems.

Table 25: Top 20 attractions in the UK based on number of visits in 2016

Rank	Attraction	Total visits
1	British Museum	6,420,395
2	National Gallery	6,262,839
3	Tate Modern	5,839,197
4	Natural History Museum	4,624,113
5	Southbank Centre	3,909,376
6	Somerset House	3,443,220
7	Science Museum	3,245,750
8	Victoria and Albert Museum	3,022,086
9	Tower of London	2,741,126
10	Royal Museums Greenwich	2,451,023
11	National Portrait Gallery	1,949,330
12	Chester Zoo	1,898,059
13	Kew Gardens	1,828,956
14	Westminster Abbey	1,819,945
15	National Museum of Scotland	1,810,948
16	Edinburgh Castle	1,778,548
17	Royal Albert Hall	1,660,123
18	Scottish National Gallery	1,544,069
19	St Paul's Cathedral	1,519,018
20	British Library	1,500,986

Source: Association of Leading Visitor Attractions

[37] This does not include all visitor attractions in the UK. See: http://www.alva.org.uk/details.cfm?p=423

A similar rank of the top 20 visitor attractions in the UK is compiled by Visit Britain and includes some other attractions not included in the ALVA statistics. Nonetheless, some London attractions with key architectural features also appear in this list[38].

Economic contribution

Using a similar methodology to GLA Economics Current Issues Note 44[39] and as described in detail in Working Paper 86, the economic contribution of architecture-related tourism can be estimated. Effectively, this approach estimates the proportion of domestic day, domestic overnight and international visits that included architecture-related activities and applies these shares to total visitor expenditure.

For domestic overnight visitors, Visit Britain's Great British Tourism Survey (GBTS) reported that there were 12.1 million trips to London in 2016, which had total expenditure of £2.8 billion[40]. However, information showing the type of activities undertaken on these trips to the capital was last collected in 2012. This suggested that 2.8 per cent of visits to London included "viewing architecture and buildings"[41], though this share could have changed between 2012 and 2016. Arguably, architecture could also be one of several factors behind other tourism activities like visiting museums, art galleries and historic houses. However, these have not been included due to potential attribution and double counting issues. Nonetheless, acknowledging these points, the amount of domestic overnight expenditure in London that could be linked to architecture is £77.4 million in 2016.

For domestic day visitors, Visit Britain similarly produces the Great British Day Visits Survey (GBDVS) and reported that there were 337 million visits to London and £14.4 billion in expenditure in 2016[42]. By detailed activity – though this refers to 2015 and face the same issues as mentioned above – approximately 4.2 per cent of day visits to London included viewing traditional or modern architecture[43]. Applying this to total expenditure suggests that approximately £603.8 million was related to architecture in London during 2016.

Finally, for international visitors, estimates of the number of visits and the associate spend comes from the ONS International Passenger Survey (IPS). This suggested that there were 19.1 million visits to London and £11.9 billion in expenditure during 2016. However, the IPS does not provide a breakdown of the type of activities undertaken by international visitors. While some additional questions on this were added to the 2006 to 2011 surveys[44], the categories do not go into sufficient detail to identify architecture-related activities. Consequently, architecture-related expenditure by international visitors to London is estimated using the proportions calculated for domestic overnight (2.8 per cent) and day visits (4.2 per cent) above. This suggests that architecture-related spending by international visitors to London could be between £332.3 million and £498.5 million in 2016.

[38] Visit Britain (2017). Annual survey of visits to visitor attractions 2016.
[39] Smith, B (2015). The value of cultural tourism, GLA Economics Current Issues Note 44, March 2015.
[40] Visit Britain (2017). GB tourist 2016, August 2017.
[41] See: Visit Britain (2013). GB tourist 2012, August 2013.
[42] Visit Britain (2017). Great Britain day visits survey, summary of review and revised headline results, March 2017.
[43] Accessed through the online data explorer. See: Visit Britain (2016). The GB day visitor: statistics 2015, April 2015.
[44] Visit Britain (2013). Inbound tourism to Britain's nations and regions, profile and activities of international holiday visitors, September 2013.

Overall, total architectural-related tourism expenditure in London was between £1 billion and £1.2 billion in 2016 depending on the approach used for calculating international visitor spend.

To estimate the overall economic impact, it is necessary to transform the expenditure of tourists into GVA. Using the same methodology as that used in GLA Economics Current Issues Note 44 (which itself builds upon GLA Economics Working Paper 54[45]), it is estimated that the ratio between turnover (i.e. expenditure) to GVA in tourism-related industries is 42.2 per cent[46]. This suggests that the estimated GVA from architecture-related domestic and international tourism in London was between £427.7 million and £497.8 million in 2016 (Table 26).

Table 26: Estimated GVA from architecture related domestic and international tourism in London in 2016, £ millions

	Scenario 1	Scenario 2
Total expenditure (A)	£1,013.6	£1,179.7
Of which:		
Domestic day visitors	£603.8	£603.8
Domestic overnight visitors	£77.4	£77.4
International visitors	£332.3	£498.5
Turnover to GVA ratio (B)	42.2%	42.2%
Total GVA (A x B)	**£427.7**	**£497.8**

Source: ONS International Passenger Survey, Visit Britain GB Tourism Survey, Visit Britain GB Day Visits Survey, GLA Economics calculations

[45] Smith, B (2012). Visit London's leisure tourism marketing campaigns: economic impact evaluations, GLA Economics Working Paper 54, June 2012.
[46] This is the weighted average across a range of tourism-related expenditure categories (or industries). These include hotels and accommodation, eating and drinking, attractions and entertainment and transport.

7 International trade

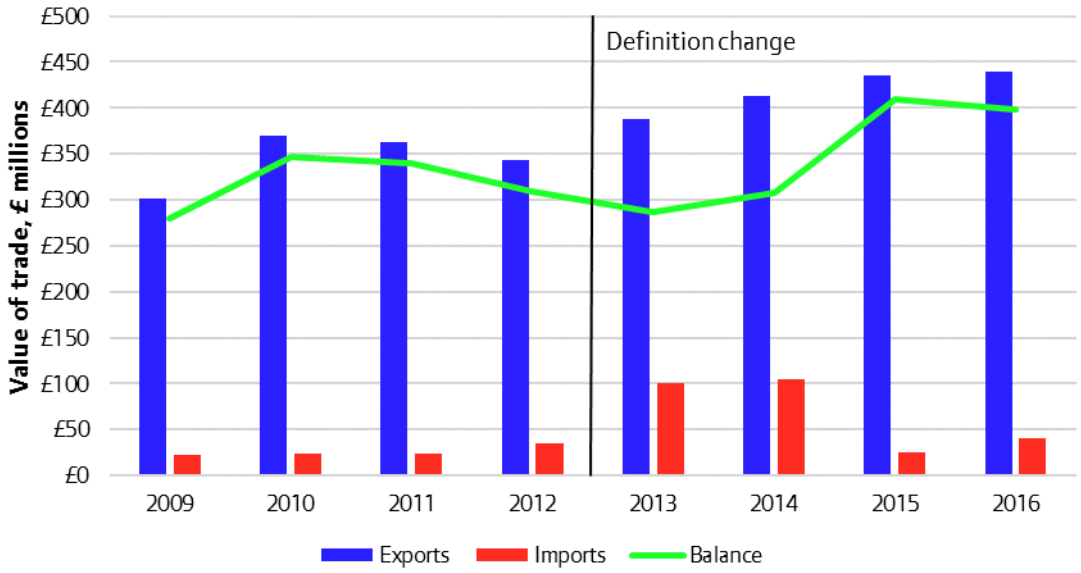
Key points

- The UK is a net exporter of Architectural services. In 2016, the UK exported £439 million of Architectural services and only imported £41 million.
- The value of the Architectural services exports across the UK has grown at a nominal annual rate of 4.3 per cent on average between 2013 and 2016.

This chapter looks at the imports and exports of architectural services. It principally uses the ONS International Trade in Services data, though this refers only to the UK.

The UK is a net exporter of Architectural services – that is, it exports more services to other countries than it imports. In 2016, the UK exported £439 million of Architectural services and imported £41 million. This gave a net balance of £398 million. That said, Architectural services only represented a small part of the UK's international trade (0.3 per cent of total service exports[47] in 2016). Nonetheless, the value of exports has grown 4.3 per cent per annum on average between 2013 and 2016 without adjusting for inflation.

Figure 25: International trade in Architectural services for the UK, current prices, £ millions



Note: The definition of Architectural services changed in 2013 so that it no longer includes surveying work. Source: ONS International Trade in Services

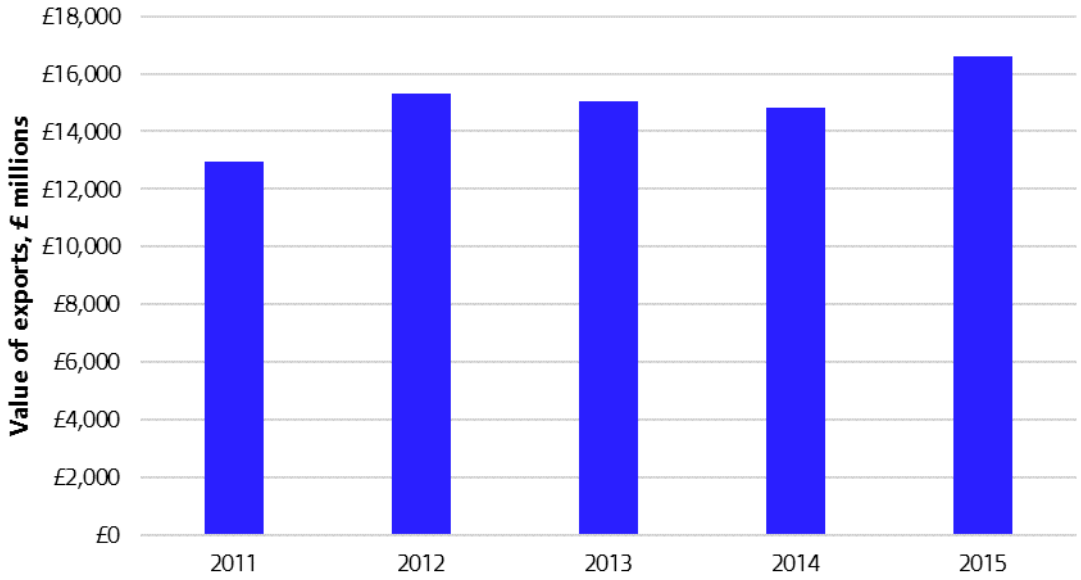
There is no information about where the UK's Architectural services are exported to as the sector is a small part of total service exports. Even the lowest aggregation for this information is

[47] Excluding travel, transport and banking.

Technical, trade related, operational leasing and other business services[48] of which Architecture only represented 2.5 per cent of the total in 2016. Nonetheless, approximately one-third of the UK's exports for this product group was to the EU (30.8 per cent) in 2016. A further 15.1 per cent was to the US. However, it should be noted that the destination of architecture exports itself may be different.

Information for London's Architectural services exports specifically is not available. While the ONS produces regional service exports data, it only presents this information by functional categories of which architecture falls under the Real estate, professional, scientific and technical group[49]. Overall, London's service exports for this functional category was £16.6 billion in 2015, the equivalent of 16.5 per cent of total service exports for London (£100.4 billion). Around one-third of London's service exports in this category was to the EU (31.5 per cent) in 2015.

Figure 26: London's exports by the Real estate, professional, scientific and technical functional category betwee 2011 and 2015, current prices, £ millions



Source: ONS International Trade in Services

[48] The ONS defines this group as (i) Agriculture, Forestry & Fishing, (ii) Mining & Oil & Gas Extraction Services, (iii) Waste Treatment & Depollution, (iv) Manufacturing Services on Goods Owned by Others, (v) Maintenance & Repair Services, (vi) Construction in the UK, (vii) Construction outside the UK, (viii) Architectural Services, (ix) Engineering Services, (x) Scientific & Other Technical Services (including Surveying) and (xi) Operational Leasing Services.
[49] ONS Regional service exports.

8 Conclusions

This report updates the estimates of the economic contribution of London's Architecture sector. It finds that the number of workplaces has been growing over time to reach a high of 4,515 in 2017. However, this has not necessarily meant an increase in the number of jobs which, at 26,200 in 2016 and up from 23,500 in 2015, remains below the peak of 27,100 jobs in 2014.

The characteristics of jobholders in London's Architecture sector has also been analysed. Around half of jobholders were female in 2016. Additionally, approximately 45 per cent were aged 35-54 years and one-third had a non-UK nationality. Looking at the Architecture and engineering sector – the lowest level of disaggregation possible – the proportion of jobholders identifying as black, Asian or any other minority ethnic was less than the London average in 2014 to 2016. Meanwhile, the proportion of jobholders with a non-Christian religion was also below the London average. However, there was no statistical difference for disability between the Architecture and engineering sector and the all-sector average during the 2014 and 2016 period.

The Architecture sector also attracts students to study and tourists to visit London. Approximately one-in-six undergraduates and one-in-three postgraduates studying Architecture, building and planning degrees did so in London during 2015-16. Also, 2.8 per cent of domestic overnight and 4.2 per cent of domestic day visits to London involved activities relating to architecture. It also helps the UK's international trading position. For example, in 2016, the UK exported £439 million of Architectural services and this has grown 4.3 per cent in nominal terms on average since 2013.

Overall, London's Architecture sector produced £1.9 billion (constant 2015 prices) in economic output during 2016. That was in line with the size of London's Postal and courier activities (£1.8 billion) and Motor trades (£2 billion) sectors. It has also been growing at an average annual rate of 7.7 per cent in real terms between 2009 and 2016. That was faster than the capital's creative industries and the London economy.

Appendix 1: DCMS creative industries definition

Table 27: Creative occupations and creative industries definitions

Creative occupations group	Standard Occupation Classifications		Standard Industry Classifications	
Advertising and	1132	Marketing and sales directors	70.21	Public relations and communication activities
marketing	1134	Advertising and public relations directors	73.11	Advertising agencies
	2472	Public relations professionals	73.12	Media representation
	2473	Advertising accounts manages and creative directors		
	3543	Marketing associate professionals		
Architecture	2431	Architects	71.11	Architectural activities
	2432	Town planning officers		
	2435	Chartered architectural technologists		
	3121	Architectural and town planning technicians		
Crafts	5211	Smiths and forge workers	32.12	Manufacture of jewellery and related articles
	5411	Weavers and knitters		
	5441	Glass and ceramics makers, decorators and finishers		
	5442	Furniture makers and other craft woodworkers		
	5449	Other skilled trades not elsewhere classified		
Design: product, graphic	3421	Graphic designers	74.10	Specialised design activities
and fashion design	3422	Product, clothing and related designers		
Film, TV, video, radio	3416	Arts officers, producers and directors	59.11	Motion picture, video and TV programme production activities
and photography	3417	Photographers, audio-visual and broadcasting equip. operators	59.12	Motion picture, video and TV programme post-production
			59.13	Motion picture, video and TV programme distribution
			59.14	Motion picture projection activities
			60.10	Radio broadcasting
			60.20	Television programming and broadcasting activities
			74.20	Photographic activities
IT, software and	1136	Information technology and telecommunications director	58.21	Publishing of computer games
computer services	2135	IT business analysts, architects and system designers	58.29	Other software publishing
	2136	Programmers and software development professionals	62.01	Computer programming activities

	2137	Web design and development professionals	62.02	Computer consultancy activities
Publishing	2471	Journalists, newspaper and periodical editors	58.11	Book publishing
	3412	Authors, writers and translators	58.12	Publishing of directories and mailing lists
			58.13	Publishing of newspapers
			58.14	Publishing of journals and periodicals
			58.19	Other publishing activities
			74.30	Translation and interpretation activities
Museums, galleries and	2451	Libraries	91.01	Library and archive activities
libraries	2452	Archivists and curators	91.02	Museum activities
Music, performing and	3411	Artists	59.20	Sound recording and music publishing activities
visual arts	3413	Actors, entertainers and presenters	85.52	Cultural education
	3414	Dancers and choreographers	90.01	Performing arts
	3415	Musicians	90.02	Support activities to performing arts
			90.03	Artistic creation
			90.04	Operation of arts facilities

Source: DCMS Creative Industries

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