Training and the Built Environment Report

2008

constructionskills

Introduction

ConstructionSkills, the Sector Skills Council for the construction industry, is a partnership that delivers truly UK-wide policies and strategies that take account of the full breadth of the industry and its training, education and development needs. ConstructionSkills mission for the industry is:

A fully skilled and professional UK construction industry working safely and delivering value.

To achieve this, ConstructionSkills, need to deliver the Sector Skills Agreement (SSA) that has been developed and agreed with stakeholders across government, industry and education. It covers four key skills challenges, each of which has a number of priorities.

Improving business performance
- Increasing the number of companies investing in training.
- Developing management and leadership skills.
- Supporting lifelong learning in construction.
- Developing skills for sustainability.

Qualifying the existing workforce
- Intensifying and widening the industry's Qualifying the Workforce initiative.
- Developing flexible training structures for specialist occupations.
- Assisting the effective integration of migrant workers.

Recruiting qualified new entrants
- Improving understanding of career opportunities in construction.
- Increasing apprenticeship completions and widening opportunities for on-site practice.
- Ensuring that the construction industry workforce better reflects 'UK plc' population.
- Increasing applications for construction-related degree courses.

Improving the infrastructure in support of these priorities
- Improving intelligence on skills for the future.
- Further developing qualifications and progression routes to meet industry needs.

Research provides facts about the industry. These details then form the building blocks for change and improvements in performance for those who use and work in construction. ConstructionSkills undertake a regular programme of research that aims to identify the skills needed to improve the construction industry's competitiveness.

As part of the research programme, the **Training and the Built Environment Report** provides a complete picture of training in the built environment.

The main sections of the report are:

Section 1: Trainee Numbers Survey 2007/2008 presents data collected from colleges, private training providers and construction industry training centres across Great Britain on the number of people entering construction training. These include those coming through ConstructionSkills' own managing agency and those entering other formal certificated training at craft and technical level.

Section 2: Forecasted Demand for Craft and Technical Construction Training 2008–2012 analyses this training data alongside the projected demand for skilled construction workers over the forecast period 2008–2012[1], in order to assess the adequacy of current training provision in terms of quantity.

Section 3: Construction Training Capacity 2007/2008 summarises the findings of the capacity questions from the Trainee Numbers Survey, which aimed to discover the total capacity for craft and technical construction training that is currently available.

Section 4: Higher Education in the Built Environment presents data from HESA on student enrolments on built environment degree courses in the academic year 2006/2007 in addition to information on the destination of graduates who obtained a first degree in the built environment during 2006/2007.

[1] Blueprint for UK Construction Skills 2008 to 2012
http://www.cskills.org/uploads/UK_LMI_tcm17-5665.pdf

Summary

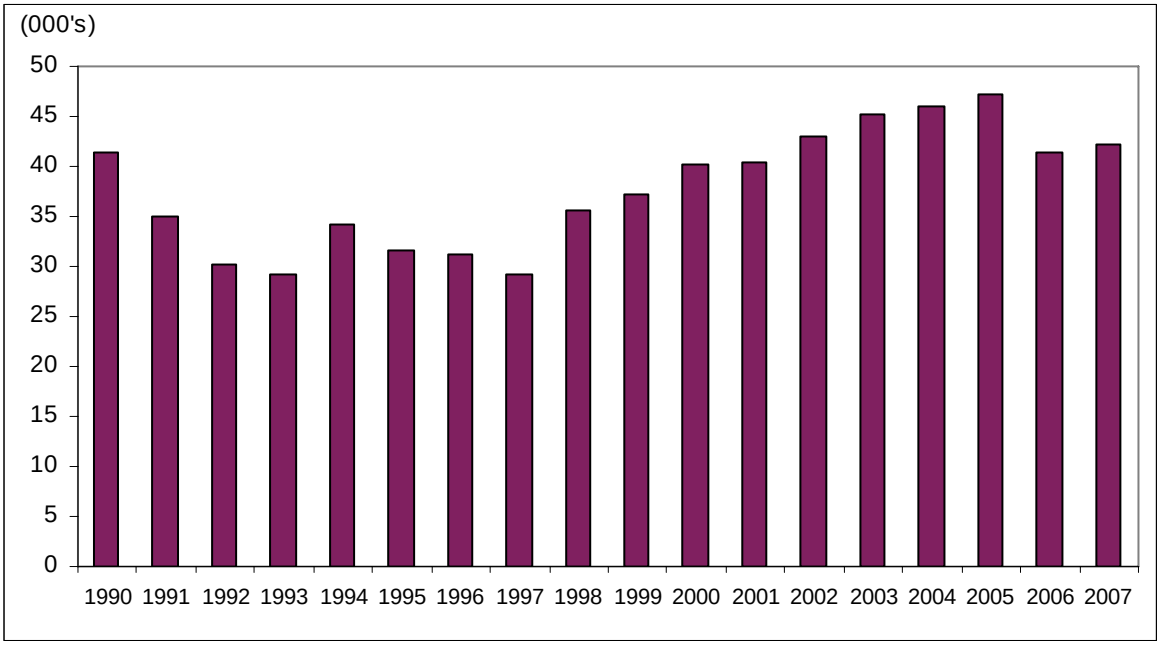
- First-year intake in 2007/2008 stands at just over 42,000. This represents a small increase on previous year's figures (2%).
- The composition of the top five occupations in terms of absolute numbers of starters are wood trades, bricklayers, technical occupations, painters and plant operatives – comparable to last year.
- Half of all first-year trainees are undertaking an S/NVQ Level 2 or Intermediate Construction Award/Certificate.
- Yorkshire and Humber has more starters than the other 10 regions/devolved administrations.
- Just under half of all first-year trainees undertaking craft training are work-based.
- Approximately two-thirds of all S/NVQ Level 2 and Level 3 starters are following an apprenticeship programme.
- The breakdown of first-year intake by age shows slightly more trainees aged under 18 years (54%)
- There are 1,367 female starters (3% of total).
- Ethnic minority starters account for 7% of the total, but there are strong geographical variations – rising to 42% in London.
- Across all construction courses there were 32% more applicants than starters – which equates to an average of just over 1.3 applicants for every available place – unchanged from last year.
- Civil Engineering Operations were the most oversubscribed courses.
- Courses at S/NVQ Level 1 are the most oversubscribed, while S/NVQ Level 3 are the least oversubscribed, this is unchanged from last year.
- There is considerable regional variation in the availability of work placements for trainees on Construction Awards
- Predicted demand compared to the amount of training taking place shows that the whilst there are expected to be sufficient bricklayers and plasterers leaving training providers, there will be a shortfall in wood trades and painting and decorating.
- The number of students starting a built environment course across the higher education sector stood at just over 23,500 in the academic year 2006/2007, of which over half (55%) were studying towards a first degree
- Two-thirds of built environment graduates entered full-time work (including self-employment) during the first six months after graduation. The majority beginning work in the construction sector.

Section 1: Trainee Numbers Survey 2007/2008

The national picture

The number of first-year trainees has remained broadly static this year, representing a very small increase on last year of 2% to just over 42,000. Chart 1 depicts the number of first-year trainees over a seventeen-year period (1990–2007) and illustrates how, following a period of sustained growth, the numbers have fallen to a level comparable to the early 2000s.

Chart 1 – Numbers of first-year trainees 1990–2007 (Great Britain: All occupations)



Note: Due to changes made to data collection during 2004/2005, the total first-year intake displayed in the chart for years 1999 onwards does not include trainees undertaking a mechanical engineering course.

The issue of training and in particular decreasing levels of apprentices and trainees is likely to become more pronounced if the current economic climate worsens. The signs of a downturn in training - or at least a plateau in the recent trend – is evident in the survey findings over the past two academic years (2006/7 to 2007/8). Chart 1 shows how the recession of the 1990s affected training in the construction industry as it underwent a prolonged period of low activity with a contracting workforce and low levels of recruitment.

Whilst the current training intake has not reached the low levels of the 1990's, if as predicted the UK economy falls into recession this year (OECD)[2].), further falls in training can not be ruled out.

[2] BBC News Website "UK recession this year, OECD says" 2nd September 2008
http://news.bbc.co.uk/1/hi/business/7592660.stm

Training by occupation

The overall first-year intake in the academic year 2006/2007 is 42,166. Table 1 shows the breakdown for the 15 occupations covered by the survey.

Table 1 – Numbers of first-year trainees 2007/2008 (Great Britain)

	Under 18		18 and over		
Occupations	**Male**	**Female**	**Male**	**Female**	**Total**
Technical	1200	97	2260	342	**3899**
Wood trades	9612	158	3910	63	**13743**
Bricklayers	6186	115	2616	*<50*	**8949**
Painters and decorators	1893	221	1150	189	**3453**
Plasterers and dry liners	1333	*<50*	1024	*<50*	**2407**
Roofers	253	0	141	0	**394**
Floorers	184	*<50*	245	*<50*	**442**
Glaziers	*<50*	0	*<50*	0	***<50***
Specialist building operatives	106	0	344	*<50*	**451**
Scaffolders	163	*<50*	888	*<50*	**1055**
Plant operatives	212	0	4525	*<50*	**4746**
Plant mechanics/fitters	109	*<50*	401	0	**511**
Steel erectors/structural	0	0	*<50*	0	***<50***
Civil engineering operatives	757	55	1234	*<50*	**2062**
Maintenance workers	*<50*	*<50*	*<50*	0	***<50***
	22,030	**681**	**18,769**	**686**	**42,166**

Table 2 lists the occupations in descending order, in terms of absolute number of starters for 2007/2008, shown over a five year period. Seven occupations have more first-year trainees this year than the previous year - these have been shaded. The biggest increase is the number of new entrants on plant operative courses, while painting and decorating, plastering and drylining, scaffolding, flooring and plant mechanic courses all now have their highest number of starters over the five year period. Conversely the biggest decrease has been in technical courses where the numbers have decreased significantly to their lowest level over the five years, although they are still the fourth largest occupational group.

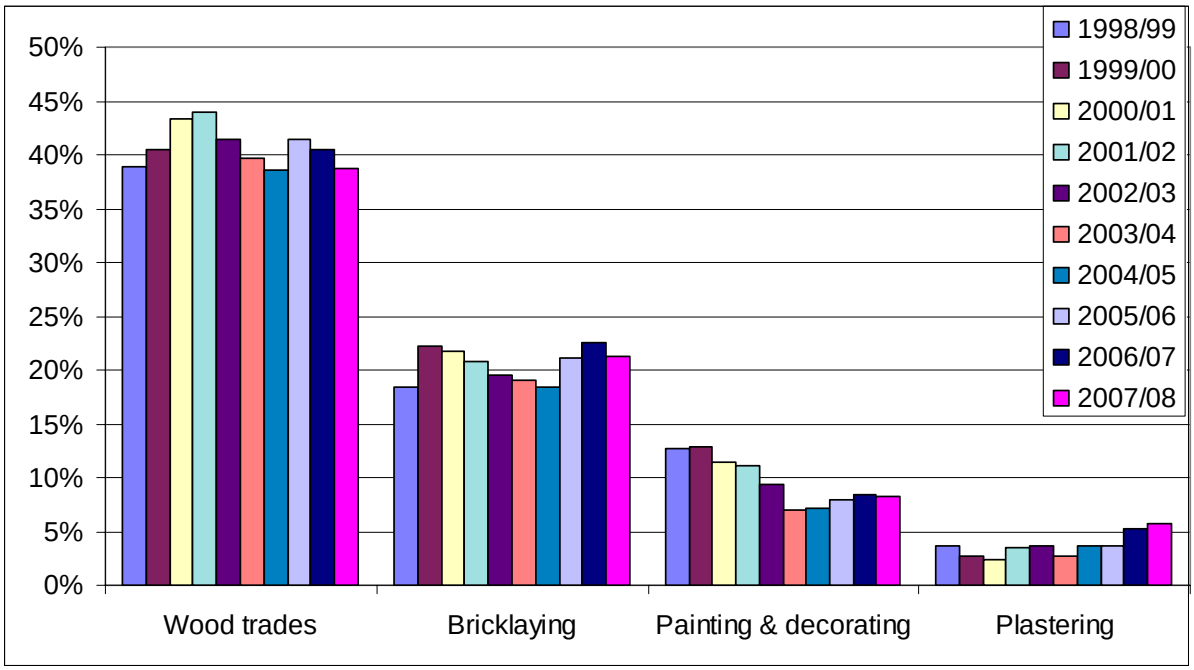
Table 2 – Comparison of number of first-year trainees by occupation 2003/2004 to 2007/2008 (Great Britain)

Occupations	**2007/2008**	**2006/2007**	**2005/2006**	**2004/2005**	**2003/2004**
Wood trades	13743	14404	14785	13,719	14,097
Bricklayers	8949	9338	9959	8,473	8,585
Plant operatives	4746	2899	4760	4,987	4,573
Technical	3899	5083	5525	6,529	6,430
Painters and decorators	3453	3451	3718	3,286	3,123
Plasterers and dry liners	2407	2151	1746	1,678	1,307
Civil engineering operatives	2062	1187	3424	4,616	4,611
Scaffolders	1055	925	882	620	399
Plant mechanics/fitters	511	331	173	197	204
Specialist building operatives	451	605	799	442	480
Floorers	442	553	818	958	714
Roofers	394	342	335	300	324

Note: Table 2 only shows occupations with 50 or more starters in 2007/2008

Chart 2 looks specifically at the building craft occupations and the proportion they represent of all first-year trainees over a ten year period – 1998/1999 to 2007/2008.

Chart 2 – Proportion of first-year trainees 1998–2007 (Great Britain: Building craft occupations)



As shown in Table 2 both wood trades and bricklaying have witnessed a decrease in new starts this year, yet they still dominate the first year training figures with 39% and 21% of the total training figure, respectively. Over the past ten years wood trades, bricklaying and plastering has been fairly consistent averaging 41%, 21% and 4%. The biggest fluctuations have occurred in painting and decorating which has decreased from a high of 13% in 1998/99 to 8% this year (2007/08). The building craft occupation which has seen the biggest increase in its share of training is plastering which at 6% this year is its highest over the ten year period.

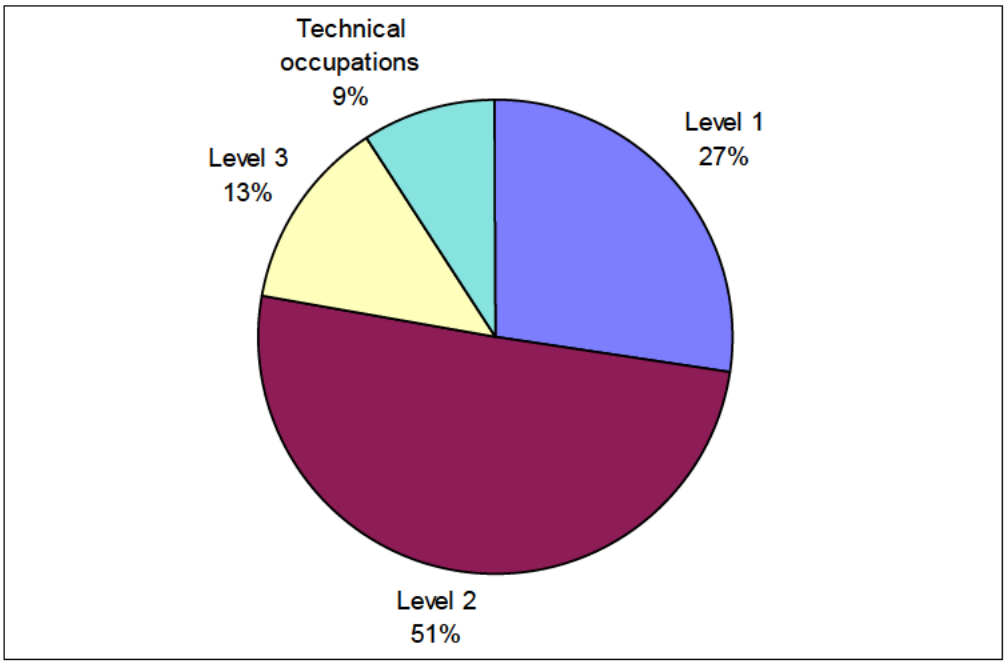
Training by qualification

Data is collected on trainees starting construction qualifications in each of the following levels:

- S/NVQ Level 1 or Foundation Construction Award/Certificate
- S/NVQ Level 2 or Intermediate Construction Award/Certificate
- S/NVQ Level 3 or Advanced Construction Award/Certificate
- Further and Higher Education courses
  (National Certificate/Diploma and Higher National Certificate/Diploma)

The percentage of first-year trainees on a qualification, within each of these levels, for the whole of Great Britain is shown in Chart 3.

Chart 3 – First-year trainees undertaking a qualification in each level 2007/2008 (Great Britain)



Within Great Britain, exactly half of the first-year trainees are undertaking either an S/NVQ Level 2 or Intermediate Construction Award/Certificate, while just over a quarter (27%) are following an S/NVQ Level 1 or Foundation Construction Award/Certificate. This year S/NVQ Levels (and equivalents) 1, 2 and 3 have each increased slightly at the detriment of technical occupation courses. These have decreased to less than 10% of the new entrants. Although it should be noted that the Trainee Numbers Survey collects data from the Further Education sector and technical courses are also provided by Higher Education Institutions. See Section 4 for more information.

This pattern is consistent across the majority of Regional Development Areas of England and Wales, but there are notable differences in the East Midlands, London and Scotland. These are explored further in Geographical considerations.

This year the survey was further expanded in order to acquire data on the expected progression of trainees from a Level 1 qualification – both at S/NVQ Level 1 and a Foundation Construction Award/Certificate.

Across Great Britain, approximately three-quarters (74%) of S/NVQ Level 1 trainees were expected to progress to a higher level qualification. Whereas only a third (34%) of trainees undertaking a Foundation Construction Award/Certificate in England and Wales were predicted to progress to the Intermediate level during this academic year (2007/2008).

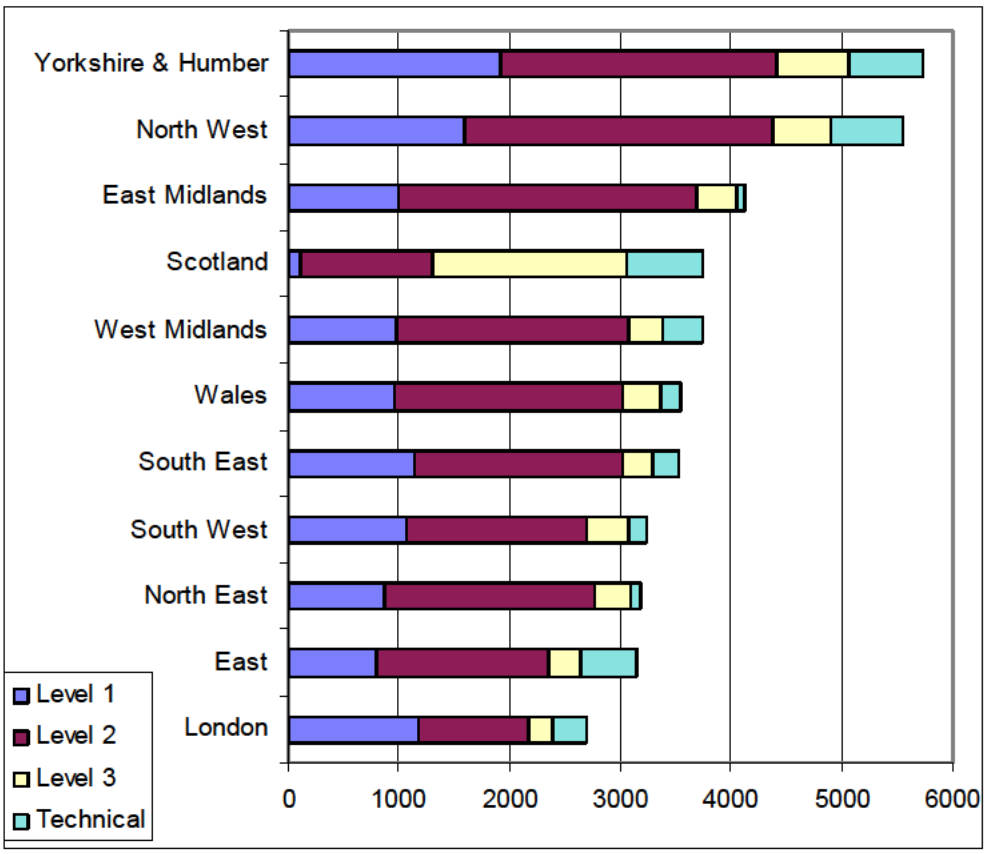
It is certainly encouraging that such a high proportion of S/NVQ Level 1 trainees are likely to advance to a higher level qualification (seemingly a Level 2). This suggests that S/NVQ Level 1 qualifications provide the appropriate skills and knowledge to enable trainees advancement to a Level 2, which as stated in the Leitch Review are '*the minimum platform of skills required for employment and business competitiveness, as global economic changes reduce the employment opportunities for the unskilled*'[3]

[3] Leitch Review of Skills: Prosperity of all in the global economy – world class skills (December 2006)www.hm-treasury.gov.uk/leitch

Geographical considerations

As mentioned at the beginning of the report, the number of first-year trainees is collected from colleges, private training providers and construction industry training centres across Great Britain. This data is then analysed by the numbers in the training establishments within each Regional Development Agency (RDA) area in England, Scotland and Wales.

Chart 4 – First-year trainees by level of qualification and geographical area: 2007/2008 (Great Britain)



See figure 1 in Appendix for a visual representation of the total number of first-year trainees by geographical area.

Chart 4 above shows that Yorkshire and Humber has the largest share of first-year trainees at just over 5,700 while London has the smallest share at approximately 2,700 – accounting for 14% and 6% of the total number of trainees respectively. Both these geographical areas ranked the same last years.

Chart 4 also highlights how Scotland differs to the other areas by having the smallest share of trainees on an SVQ Level 1 and SVQ Level 2 but the largest share undertaking the higher level qualifications.

In addition, both London and the East Midlands are significantly different to the national picture. The East Midlands has two thirds of its trainees starting on a Level 2, much higher than the average, but only 2% are undertaking a course at technical level. London, meanwhile has its largest share of trainees on a Level 1 qualification (44%).

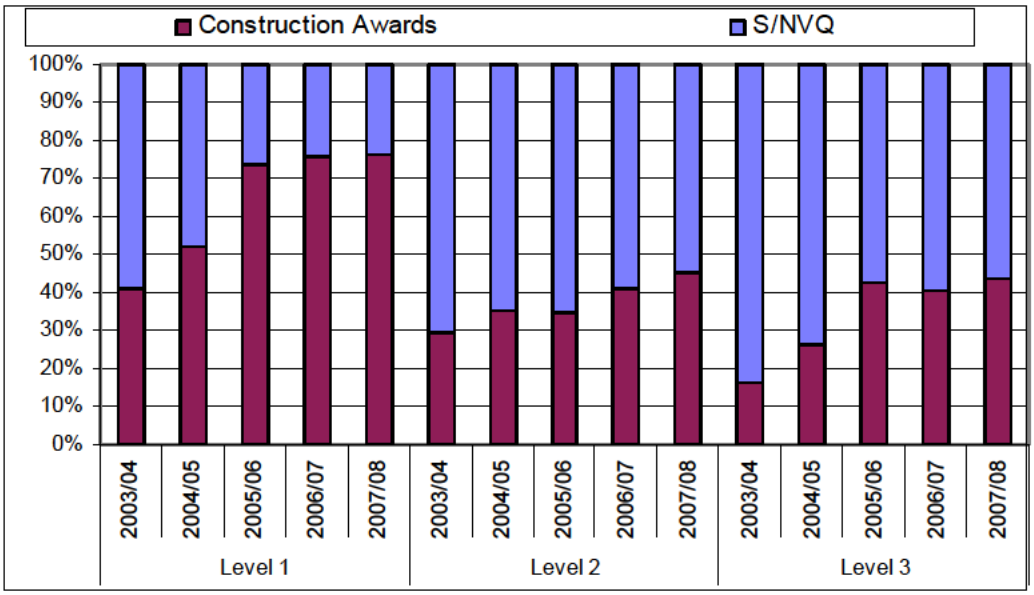
Work-based training

In order to differentiate between those starters who are undertaking work-based training and those who are not, the survey asks training providers how many first-year trainees were undertaking a Construction Award qualification.

Construction Awards are qualifications for craft occupations that can be completed part-time or full-time, but they do not include any proof of work undertaken on site, as opposed to the S/NVQ framework, which requires on-site experience/assessment. There are three levels of Construction Awards in-line with the S/NVQ system – Foundation (Level 1), Intermediate (Level 2) and Advanced (Level 3).

Of the 35,217 starters undertaking construction craft training in England and Wales, 19,370 (55%) are studying for a Construction Award. In other words, 45% of first-year trainees are involved in work-based training. Both the number and proportion of starters undertaking a Construction Award represents a further increase on the previous four years – 17,349 (52%), 16,751 (44%), 13,569 (38%) and 11,840 (30%) respectively. Proportionately, as highlighted by Chart 5, construction awards have remained relatively static across all levels.

Chart 5 – Proportion of first-year trainees split by work-based training 2003/2004 to 2007/2008 (Craft training in England and Wales)



Note: Construction Awards are not available in Scotland, all data for work-based training excludes Scottish trainee figures.

As a proportion of starters in each level, there are more undertaking a Foundation Construction Award at Level 1. This has increased quite substantially between 2003/04 and 2005/06 from 41% to 74%, although for the past two years it has stabilised at 76%.

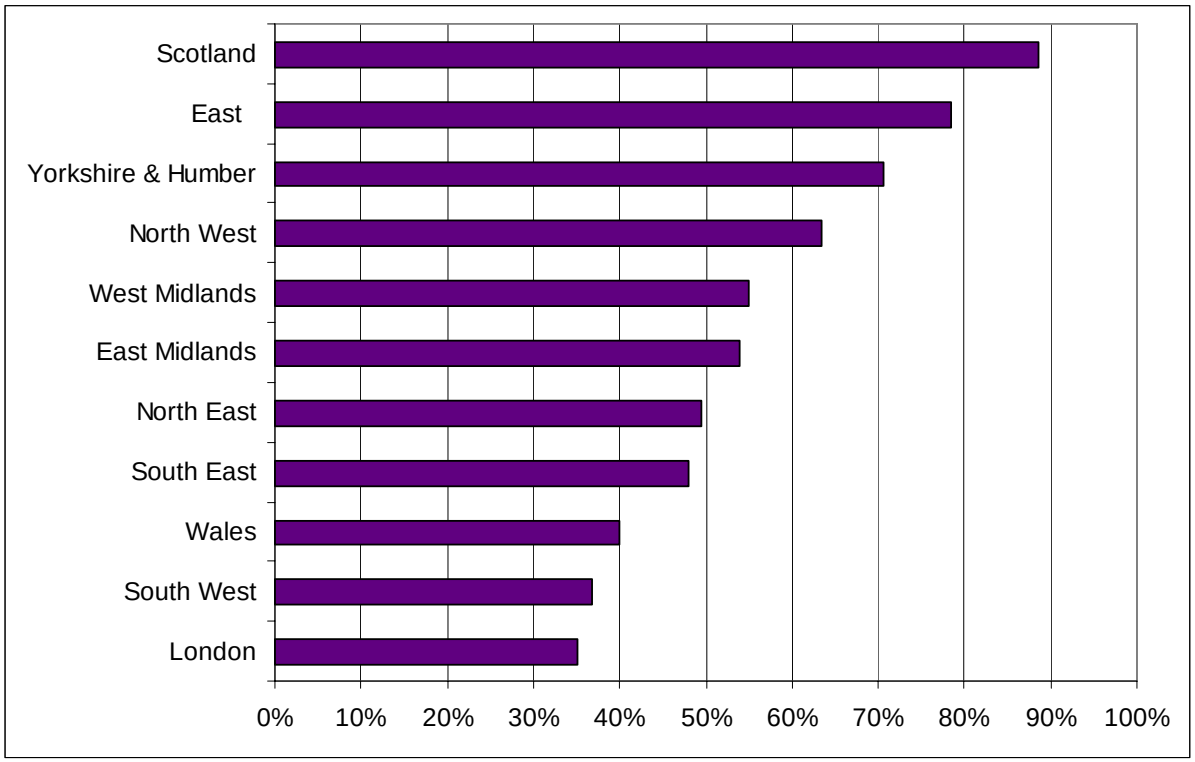
It should be noted that this survey is undertaken at the beginning of the academic year, therefore, the numbers on Construction Awards will tend to decrease as the year progresses and more trainees are placed with employers. Thus trainees will move into the relevant NVQ Level qualification. In addition, as mentioned Training by Qualification training providers foresee a third of their Foundation Construction Award/Certificate trainees advancing to a Intermediate Construction Award/Certificate during this academic year (2007/2008).

Apprentices

Overall, there are 9,877 first-year trainees following an apprenticeship programme (62% of the total number of S/NVQ Level 2 and Level 3 trainees). Of the total number of apprentices, 6,822 (69%) are undertaking a Level 2 qualification with the remaining 3,055 (31%) on a Level 3. However, as a proportion of the total number of starters undertaking each level 56% of Level 2 trainees are following an apprenticeship programme which increases to 80% of all Level 3 trainees.

Chart 6 shows the split by area between those following an apprenticeship programme at both Level 2 and Level 3. This highlights that Scotland has both the largest proportion of first-year trainees following an apprenticeship programme, with 89% on both Level 2 and Level 3 and the largest absolute number of apprentices (2,598), who account for 26% of the total number of apprentices.

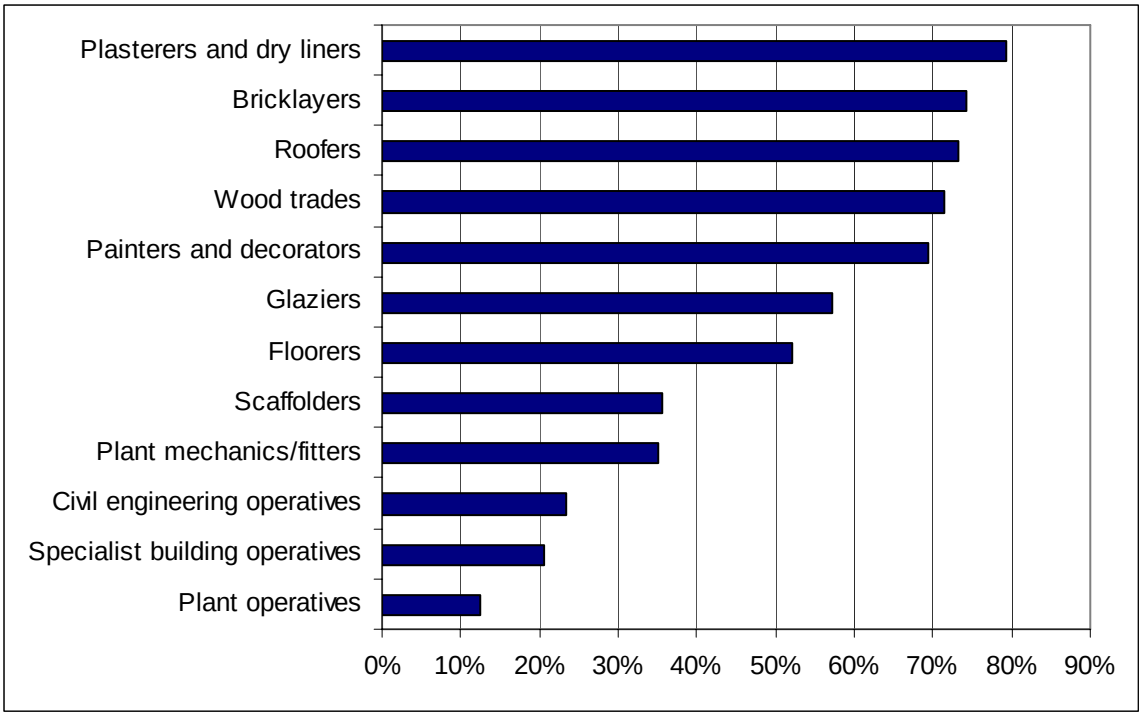
Chart 6 – Proportion of first-year trainees following an apprenticeship programme by area 2007/2008 (Total of S/NVQ Level 2 and Level 3)



Note: Chart 6 only refers to qualifications which are available at S/NVQ Level 2 and Level 3.

Analysis by occupation shows that apprentices are more likely to be found in the building craft trades (Wood trades, Bricklaying, Painting & decorating and Plastering and dry lining) accounting for 87% of all apprentices (see Chart 7).

Chart 7 – Proportion of first-year trainees following an apprenticeship programme by occupation 2007/2008 (Total of S/NVQ Level 2 and Level 3)



Note: Chart 7 only refers to qualifications that are available at both S/NVQ Level 2 and Level 3.

The occupation with the largest absolute number of apprentices is wood trades (4,432), as would be expected given their dominance of the training figures (see Table 2). Although, as shown in Chart 7, plastering and drylining have the greatest share of trainees undertaking an apprenticeship programme (79%).

First-year trainee characteristics

In addition to collecting data on the type of training new entrants start each academic year, the Trainee Numbers Survey also captures first-year trainee characteristics as defined by their age, gender and ethnic minority.

Age

The survey asks respondents to breakdown the number of starters undertaking each qualification into two, broad age categories:

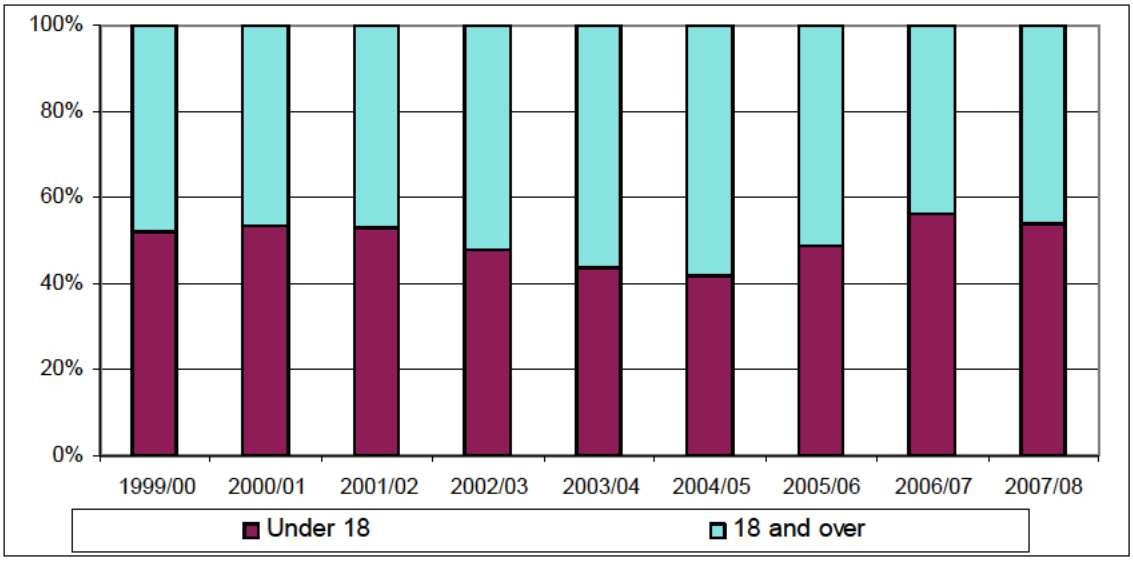
- Under 18 years
- 18 years and over.

Table 3 – Breakdown of first-year trainees by age and level of qualification 2006/2007 (Great Britain)

	Under 18 years	18 years and over	Total
Level 1	8,743 *75%*	2,847 *25%*	11,590
Level 2	10,266 *48%*	10,989 *52%*	21,255
Level 3	2,405 *44%*	3,017 *56%*	5,422
Technical occupations	1,297 *33%*	2,602 *67%*	3,899
	22,711 *54%*	19,455 *46%*	42,166

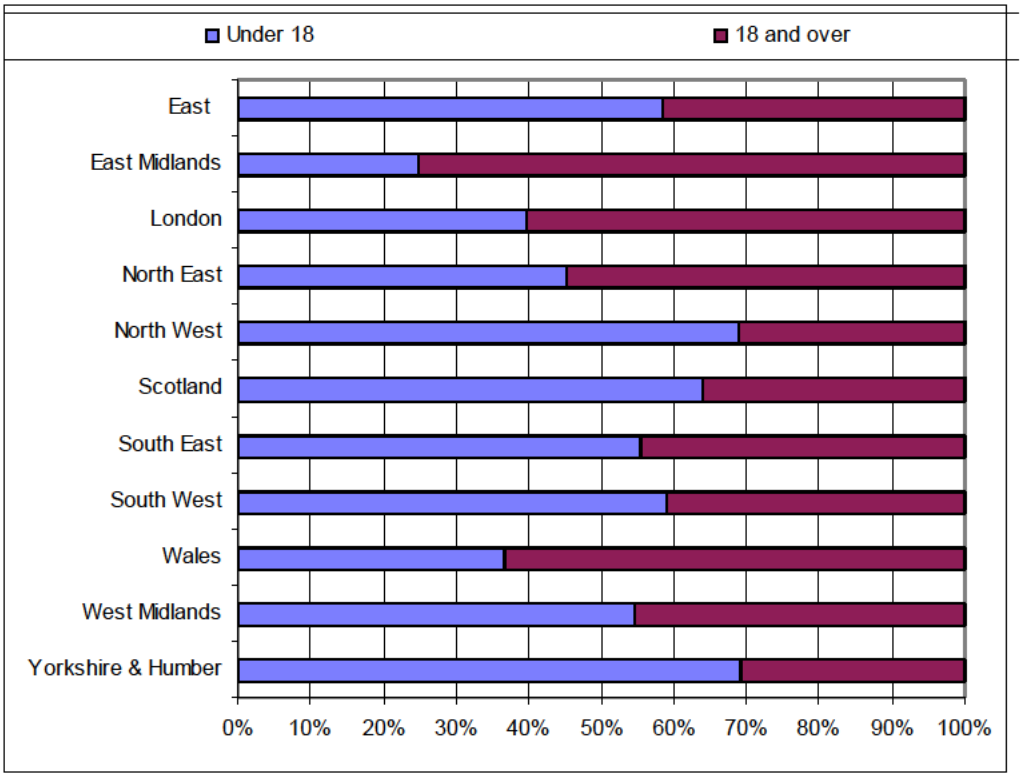
As would be expected, younger starters dominate in Level 1 qualifications and decrease as the level of qualification increases. Overall, the breakdown of first-year trainees by age shows slightly more trainees aged under 18 years (56%), comparable to last year which reversed the trend between 2002/03 and 2005/06, of a higher proportion of adult trainees, as highlighted in Chart 8.

Chart 8 – Age of first-year trainees as a proportion of total 1999–2007 (Great Britain)



Split by geographical area, Chart 9 shows that as a proportion of all starters in the area, both Yorkshire and Humber and the North West has more under-18s, while the East Midlands has the highest proportion of adults, accounting for three-quarters of their trainees.

Chart 9 – Age of first-year trainees by geographical area 2007/2008 (Great Britain)



Gender

The number of first-year trainees broken down by gender is shown in Table 4.

Table 4 – Number of first-year trainees broken down by gender and age 2007/2008 (Great Britain)

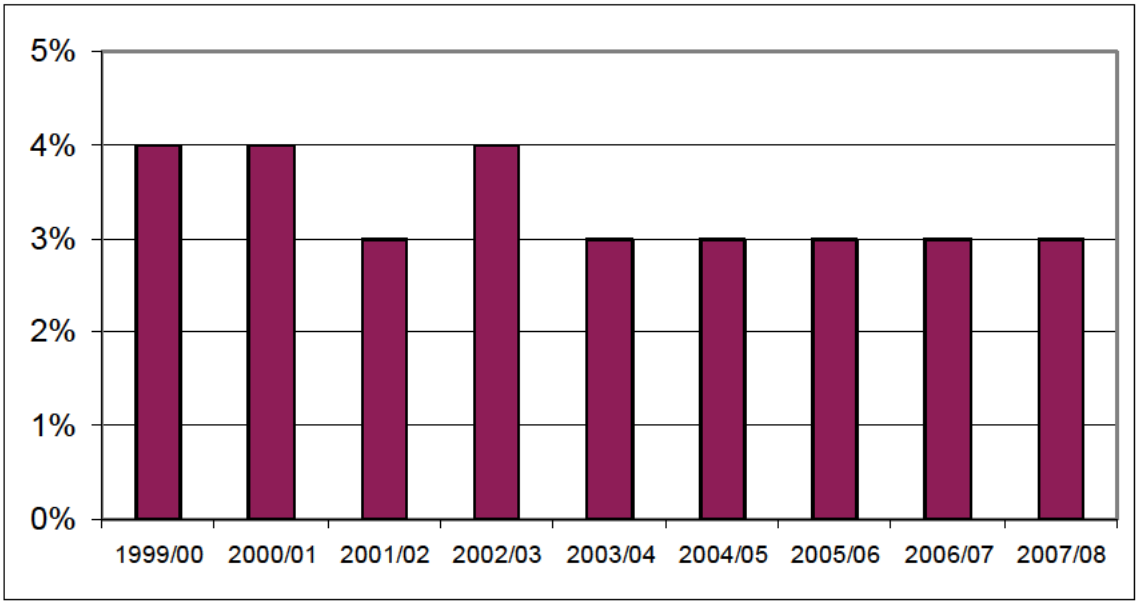
Under 18 years		18 years and over		Total	
Male	Female	Male	Female	Male	Female
22,030	681	18,769	686	40,799	1,367
(52%)	(2%)	(45%)	(2%)	(97%)	(3%)

Table 4 shows that in the academic year 2007/2008 there were 1,367 (3%) female starters compared to 40,799 (97%) males. These proportions are exactly the same as the previous four academic years, as depicted in Chart 10, which also shows how the share of female starters has remained between 3% or 4% since 1999/2000.

The proportion of women entering construction training is lower than their representation within the construction workforce where they currently account for 9% of employment in Great Britain[4].

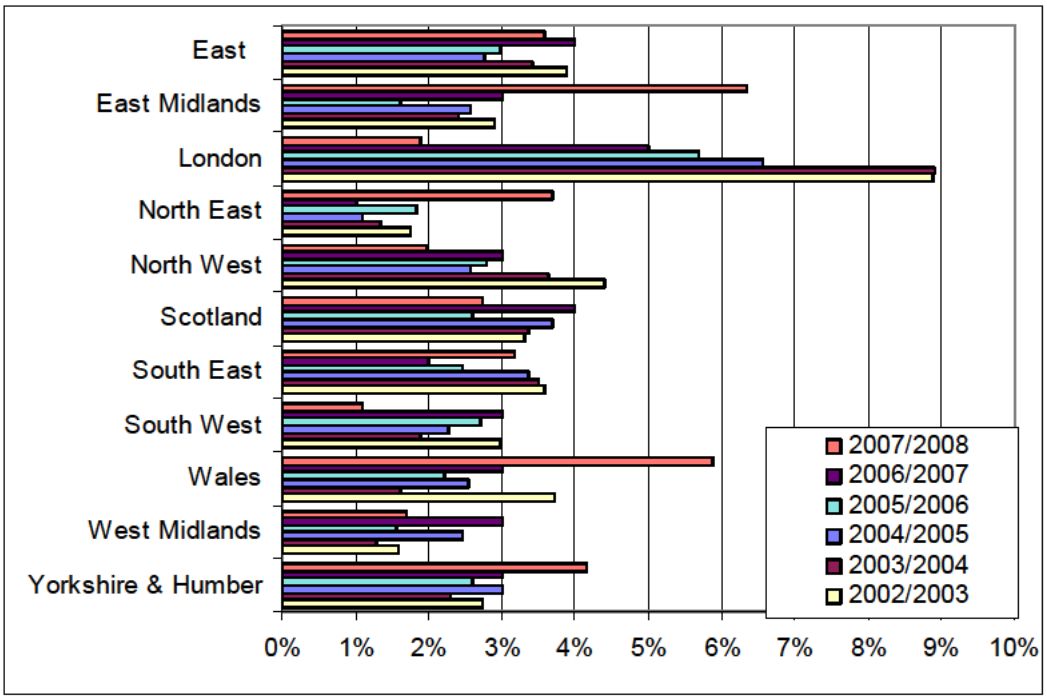
[4] Labour Force Survey, Spring 2008 (SIC45) Great Britain

Chart 10 – Female first-year trainees as a proportion of the total number of first-year trainees 1999–2007 (Great Britain)



Analysis by geographical area, shows that in 2007/2008 East Midlands has the highest absolute number (237) of female starters, accounting for 17% of the overall number of female starts. In a remarkable reversal to previous years, the East Midlands and Wales have the highest share of females (6%) as a proportion of trainees in the area. As highlighted in Chart 11, London has consistently had the highest proportion of female starters, but have decreased their share to only 2% this year (2007/2008). Across the remaining areas of Great Britain, the majority of areas are consistent with the average figure of 3%.

Chart 11 – Female first-year trainees as proportion of all trainees by geographical area (Great Britain: Six-year trend)

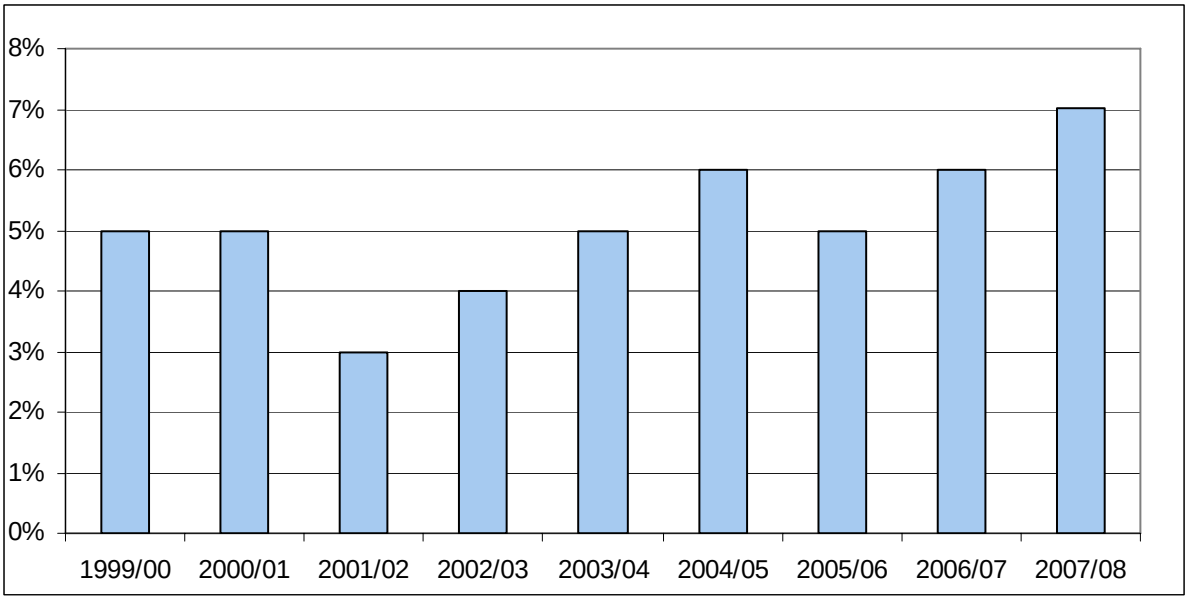


Analysis split between craft (S/NVQ Levels 1 to 3) and technical qualification levels highlighted that female starters were far more likely to be studying for a technical qualification – 11% of all technical trainees, compared to only 2% of all craft trainees, are female. However, within the craft occupations as a proportion of the total number of starters by occupation, females were just as inclined towards painting and decorating courses (12%). These findings are consistent with the representation of females in the construction workforce. The Labour Force Survey (Spring 2008) employment by occupation data illustrates that painting and decorating is the craft trade which has the highest representation of women (2%)[5].

Ethnic minorities

The number of first-year trainees who are from an ethnic minority stands at 2,969 in 2007/2008 or 7% of the total, representing both the largest share and absolute number in the nine years since the survey began measuring diversity data. Proportionally this is considerably higher than within the construction workforce, where they currently account for 3%.

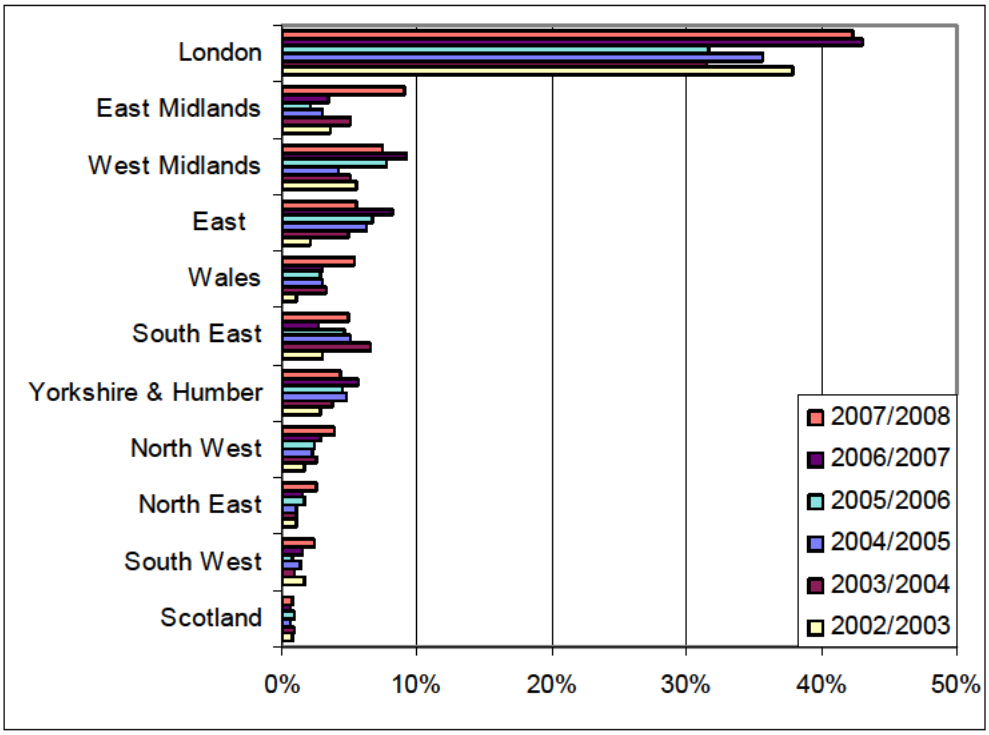
Chart 12 – Ethnic minority first-year trainees as a proportion of all first-year trainees 1999-2007 (Great Britain)



London has the highest proportion of ethnic minority starters. In fact, as Chart 13 shows, there is a large disparity between the share of ethnic minority first-year trainees in London compared to those in the other areas across Great Britain. As a proportion of all first-year trainees in London, those from an ethnic minority account for 42%, which is much higher than the other areas, where ethnic minority starters account for less than 10%. This has been a consistent trend over the past six years, as shown in Chart 13.

[5] Labour Force Survey, Spring 2008 (SIC 45) Great Britain

Chart 13 – Ethnic minority first-year trainees as proportion of all first-year trainees by geographical area (Great Britain: Six-year trend)



Section 2: Forecasted Demand for Craft and Technical Construction Training 2008–2012

ConstructionSkills, through the Construction Skills Network[6], publishes a forecast of the likely demand for skilled construction workers over the next five years – the longest period over which such a forecast can reasonably be made. The forecast, which is made in partnership with Experian, uses data derived from foreseeable economic and industrial factors on employment. The current published forecasts are reproduced in the following two tables: Table 5 (by geographical area) and Table 6 (by construction trades).

Table 5 – Requirement for skilled workers by geographical area (Great Britain)

	Total employment		Percentage Change	Average annual requirement
	2008	2012	2008-2012	2008-2012
East	96,610	107,130	11%	4,760
East Midlands	65,340	70,980	9%	2,000
London	102,330	114,710	12%	5,570
North East	45,040	50,150	11%	1,470
North West	99,850	107,050	7%	3,510
Scotland	99,710	109,260	10%	3,370
South East	119,470	127,230	6%	5,110
South West	84,890	91,160	7%	2,640
Wales	42,170	48,290	15%	2,320
West Midlands	83,280	88,760	7%	2,610
Yorkshire & Humber	80,140	85,540	7%	2,710
Total (Great Britain)	**918,830**	**1,000,260**	**9%**	**36,070**

Source: ConstructionSkills Employment Model, 2008

Note: Table 5 is a subset of the table that appears in Blueprint for UK Construction Skills 2008-2012 report. It covers only the skilled manual trades and excludes managers, clerical staff, technical staff and professional occupations.

See figure 2 in Appendix for a visual representation of the forecasted annual average requirement for skilled workers by geographical area.

[6] http://www.cskills.org/supportbusiness/businessinformation/csn/index.aspx

Table 6 – Requirement for skilled workers in the construction trades (Great Britain)

	Total employment		Percentage change	Average annual requirement
	2008	2012		2008-2012
Main trades				
Wood trades	278,000	302,230	9%	12,140
Bricklayers	102,070	114,310	12%	5,240
Painters and decorators	140,970	156,730	11%	4,410
Plasterers and dry liners	40,890	43,560	7%	1,500
Main trades total	***561,930***	***616,830***	***10%***	***23,290***
Specialist building trades (SB)				
Roofers	40,510	43,930	8%	1,930
Floorers	42,250	45,500	8%	870
Glaziers	44,810	46,840	5%	1,130
Other SB operatives	58,200	62,760	8%	2,140
Specialist SB trades total	***185,770***	***199,030***	***7%***	***6,070***
Civil engineers (CE)				
Scaffolders	20,940	23,150	11%	1,210
Plant operatives	40,930	44,130	8%	1,480
Plant mechanics/fitters	22,560	23,410	4%	1,030
Steel erectors/structural	26,080	27,430	5%	950
Other CE operatives	60,620	66,280	9%	2,040
Civil engineers total	***171,130***	***184,400***	***8%***	**6,710**
Total	**918,830**	**1,000,260**	**11%**	**36,070**

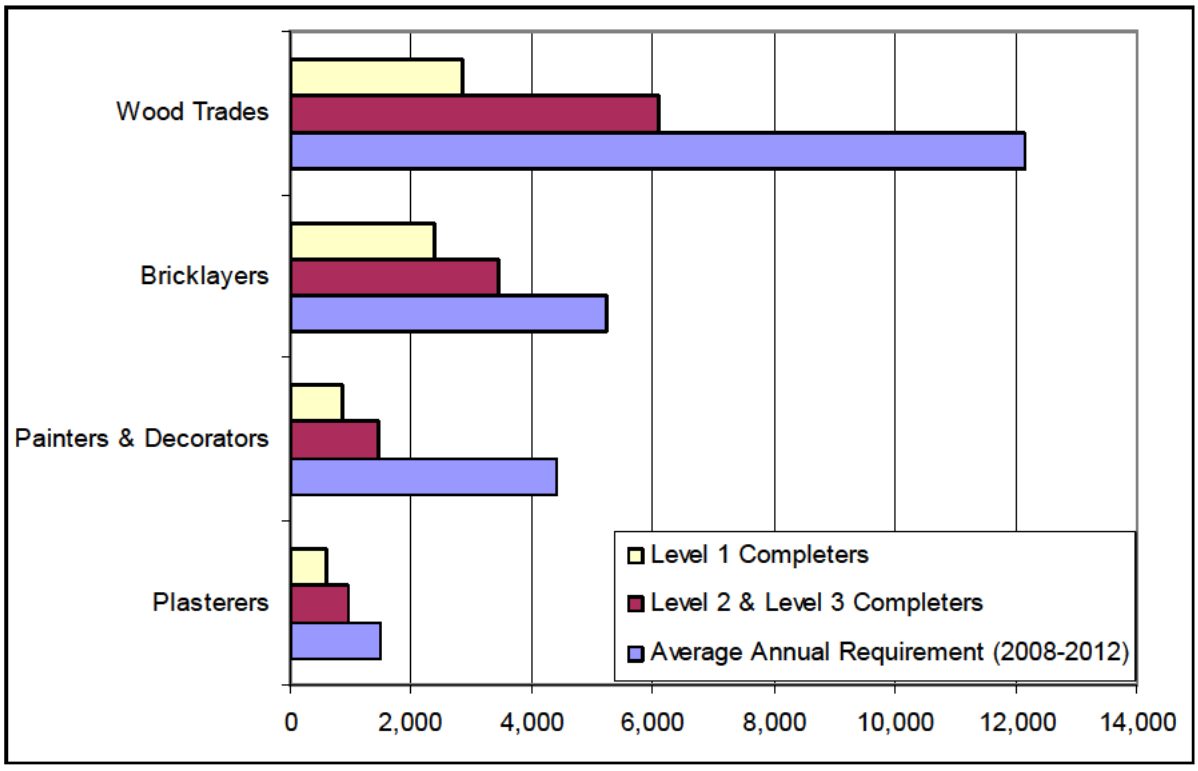
Source: ConstructionSkills Employment Model, 2008

Note: Table 6 is a subset of the table that appears in Blueprint for UK Construction Skills 2008–2012 report. It covers only the skilled manual trades and excludes managers, clerical staff, technical staff and professional occupations.

The industry needs to recruit over 36,000 new entrants annually over the next five years in order to meet demand for the occupations listed above. By analysing this projected demand, alongside the amount of training taking place in the industry, it is possible to assess the adequacy of current training provision in terms of quantity.

Charts 14 and 15 look at predicted demand for the different construction occupations, and how this compares with the amount of training currently taking place.

Chart 14 – Average annual requirement for main construction trades (2008-2012) and expected successful learner outcomes from the 2007/08 trainee intake. (Great Britain)



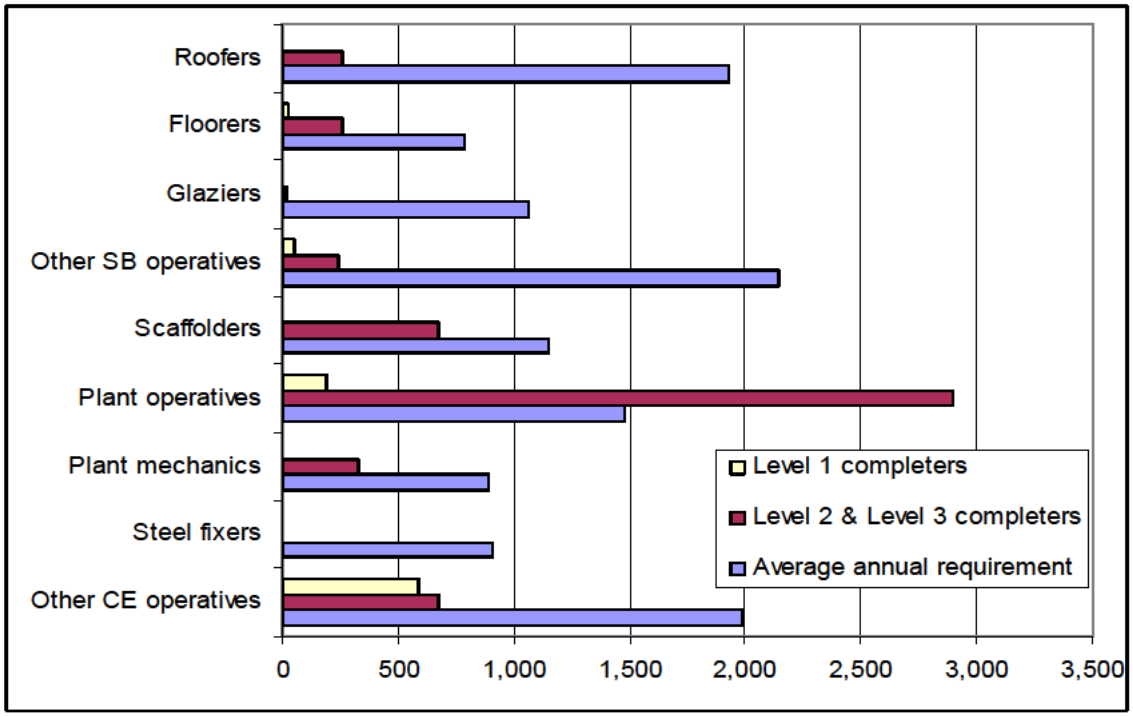
Source: Construction Skills Network Model 2008; ConstructionSkills Trainee Numbers Survey 2007/2008; Learning and Skills Council

The above graph compares the average annual requirement for skilled workers in the main trades, against the expected number of successful completers from the 2007/08 intake of trainees. The results show that, whilst there are expected to be sufficient bricklayers and plasterers leaving training providers, there will be a shortfall of some 30% in wood trades and 50% amongst painters and decorators that will need to be made up from elsewhere.

Another concern is the fact that trainees are not necessarily studying courses appropriate to the industry's skills demands. Thirty-five percent of new entrants training in the main construction trades are studying at Level 1, and whilst offering a useful entry into training, this does not in itself provide sufficient depth of experience to allow a new entrant or apprentice to work competently in the industry. Just under half (46%) of first-year trainees are studying for Construction Awards, which, unlike vocational qualifications, do not provide the work experience that is essential for a career in construction.

The main construction trades account for three-quarters of all training in the manual trades. Specialist builders and civil engineers between them account for around 25% of training, and as Chart 15 shows, many of these occupations are training too few people to meet the demand for skilled workers.

Chart 15 – Average annual requirement for specialist construction trades and civil engineers (2008-2012) and expected successful learner outcomes from the 2007/08 trainee intake. (Great Britain)



Source: Construction Skills Network Model 2008; ConstructionSkills Trainee Numbers Survey 2007/2008

Of the occupations shown above, only plant operations is training sufficient people to meet the forecast demand. In fact, whilst it would appear to be training far too many people, the average annual requirement figure represents the demand for skilled plant operatives in construction only; whereas approximately half of those currently in training will enter employment in another industry (e.g. agriculture, manufacturing, mining and quarrying). Taking this into account plant operative training meets, but does not exceed, the demand for trained workers.

Of the remaining occupations, scaffolding has the smallest gap between supply and demand. A few large providers make up much of the provision though meaning that many employers will struggle to find suitable training locally. The shortfall is greatest amongst steel fixers and glaziers, where formal training at Further Education colleges and private providers meets less than 1% of the projected demand.

The shortage of training places in civil engineering and specialist trades is exacerbated by the fact that there is little training available for these trades outside of the National Construction College and a very small number of specialist training centres. The reasons behind this are threefold:

1 Cost of provision: specialist and civil engineering training is generally more expensive to offer than that of the main trades.

2 Availability of provision: the high wages currently available in the industry make it difficult to recruit experienced tutors.

3 Innovation: as manufacturers launch new products, for which new skills are required, there is a time lag during which these skills are not included in vocational qualifications.

This shortfall in training capacity is looked at in more detail in Section 3 of this report.

Section 3: Construction Training Capacity 2007/2008

So far this research has shown a slight shortfall in the amount of training taking place in the main trades, and a much greater shortfall in the provision of Specialist and Civil Engineering training. This raises the question of whether there is any spare capacity within the Further Education system to train extra people to meet this gap in supply.

This section summarises the findings of the capacity questions from the Trainee Numbers Survey. The results are based upon the responses of 125 training and Higher Education providers across Great Britain and applied to the overall results from the main survey.

Capacity by course

Table 7 shows that there were over 55,000 applicants for approximately 42,000 places on construction courses, or 1.3 applicants for every place. This is the same as 2006/07, although lower than the 1.4 applicants per place recorded in 2005/06, and represents a decline in the number of applicants of 18½% over that time.

The increase in trainees undertaking a Construction Award, i.e. those who are not employed in construction, has continued to increase, from 17,350 in 2006/07 to 19,370 in 2007/08 (an increase of 12%). This would seem to confirm the growing unwillingness of employers to take on apprentices, and given the current economic difficulties facing the industry may suggest a downturn in training over the short term.

The proportion of applicants to starters in the main trades is the same as last year, although the actual numbers of both are down slightly (40,207 applicants to 29,344 starters in 2006/07 compared to 38,567 applicants to 28,552 starters in 2007/08).

The steep decline in applicants for Civil Engineering courses seen in 2006/07 has not been repeated, and indeed numbers of applicants have increased slightly this year, although they are still way below their 2005/06 peak.

Specialist courses are once again the least oversubscribed of all construction courses – suggesting that the shortfall in supply here is at least partly due to a lack of interest amongst young people in these occupations.

Table 7 – Applicants and starters to construction courses 2007/2008 (Great Britain)

Occupation	Applicants	Starts	Applicants per starter
Technical	4,691	3,899	1.2 *(1.2)*
Main Trades			
Wood trades	18,291	13,743	1.3 *(1.3)*
Bricklayers & building envelope specialists	12,638	8,949	1.4 *(1.3)*
Painters & decorators	4,443	3,453	1.3 *(1.4)*
Plasterers & dry liners	3,194	2,407	1.3 *(2.0)*
Main Trades Total	**38,567**	**28,552**	**1.4 *(1.4)***
Specialist Operatives			
Roofers	412	394	1.0 *(1.0)*
Floorers	443	442	1.0 *(1.2)*
Glaziers	21	21	1.0 *(1.0)*
Specialist building operatives nec	511	451	1.1 *(1.1)*
Specialist Operatives Total	**1,387**	**1,308**	**1.1 *(1.1)***
Civil Engineering Operatives			
Scaffolders	1,061	1,037	1.0 *(1.2)*
Plant operatives	4,777	4,746	1.0 *(1.1)*
Plant mechanics/fitters	517	511	1.0 *(1.0)*
Steel erectors/structural	1	1	1.0 *(1.0)*
Civil engineering operatives nec	4,471	2,080	2.1 *(1.1)*
Civil Eng. Operatives Total	**10,827**	**8,375**	**1.3 *(1.1)***
Maintenance workers	32	32	1.0 *(1.0)*
Total	**55,503**	**42,166**	**1.3 *(1.3)***

Figures in brackets show 2006/07 figures

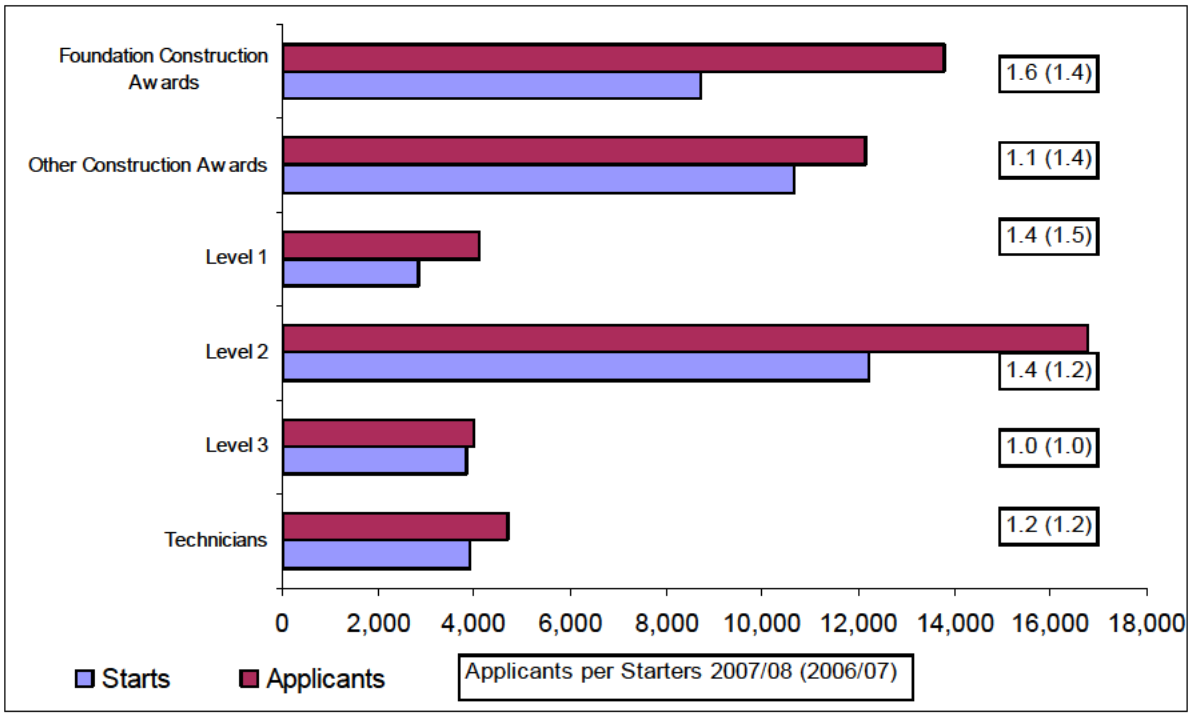
Source: ConstructionSkills Trainee Numbers Survey

See figure 3 in Appendix for a visual representation of the applicants to construction courses in the main trades by geographical area.

Capacity by level of qualification

Chart 16 shows the number of applicants and starters to construction courses in Great Britain by level of qualification. Foundation Construction Awards are proportionally the most oversubscribed, while those at S/NVQ Level 3 are the least oversubscribed.

Chart 16 - Training capacity by level of qualification 2007/2008 (Great Britain)



Source: ConstructionSkills Trainee Numbers Survey 2007/08

Around 7% of all applicants and 7% of all starters on construction courses were at S/NVQ Level 1. While this can be a useful entry point into construction training for some candidates, it is not considered by industry to represent sufficient competence to operate on site. It is of concern to note, therefore, that Level 1 courses (and Foundation Construction Awards) were the most over-subscribed of any level with a combined average of 1.5 applicants for every place.

The majority of applicants (30%) and starters (29%) were to S/NVQ Level 2 courses, the minimum level of competence for working in the industry. The shortfall in places at this level was in the order of 37% (considerably higher than 2006/07), while Level 3 courses continue to be the least oversubscribed with more or less equal numbers of applicants and starters.

Nearly half of all applicants (47%) and 46% of all starters (2006/07: 42%) were on Construction Award courses (Foundation, Intermediate, and Advanced). As already mentioned these lack the practical work experience of an S/NVQ and so can only offer at best a route into employment rather than full competence to work in the industry. To this end Programme-Led Apprenticeships were designed to provide the work experience that trainees need to achieve a full apprenticeship and complete their training.

Capacity by geographical area

Looking at training capacity in the main trades on a geographical basis, Yorkshire & Humber, the West Midlands, and the South East are the most oversubscribed, with 1.6 applicants for every place at a construction-training provider. The North West has shown the greatest change over the previous year with the proportion of applicants to starters declining from 2.2 applicants per place to 1.2. This is due to an increase in training, as well as a slight fall in the number of applicants. The South West is once again the least oversubscribed region with just 1.1 applicants for every place.

Chart 17 – Applicants and Starters (Main Trades) by geographical area 2007/2008

Source: ConstructionSkills Trainee Numbers Survey 2007/08

Nationally, Scotland showed the least disparity between the number of applicants and starters with, in the main trades at least, nearly every applicant able to find a training place. Historically Wales has demonstrated little problem providing training places for applicants, however, 2007/08 saw an increase in the number of applicants to starters to 1.4, putting it on a par with the disparity seen in England, traditionally the most oversubscribed country.

Work experience placements

To achieve an S/NVQ, trainees need to demonstrate competence in the workplace and, therefore, need either an employer or a work placement. In England and Wales, if trainees are unable or do not need to find a work placement, then their route into training is via the Construction Award, which does not include the work-based site element of NVQs.

The research asked respondents about the number of work placements that they required for trainees undertaking Construction Awards, in order to that they could move to a full NVQ qualification if required. Training providers only expected to fill 34% of the work experience places needed, a sharp fall from the previous two years when they had expected to achieve 57%. This, in conjunction with a general increase in the number of Construction Awards being undertaken, can be seen as the first impact of the slowdown in the Construction Industry following the onset of the 'credit crunch' in August 2007, with employers becoming increasingly unwilling to take on apprentices.

Table 8 – Work experience placements by area 2007/2008 (England & Wales)

	Work Experience Placements		Shortfall	Shortfall per 100 places required
	Required	Achieved		
East Midlands	234	28	206	88 (21)
London	152	20	132	87 (67)
East	186	26	160	86 (39)
Yorkshire & Humber	300	90	210	70 (31)
South West	60	19	41	68 (18)
North West	909	310	599	66 (32)
West Midlands	229	94	135	59 (39)
South East	230	117	113	49 (68)
North East	106	58	48	45 (42)
Wales	124	108	16	13 (55)
Total	**2,530**	**870**	**1,660**	**66 (43)**

Note: Construction Awards are not available in Scotland and therefore all data within this subsection excludes Scottish trainee figures. Figures in brackets show 2006/07 figures

London continues to show one of the greatest proportional shortfalls in the number of workplaces likely to be achieved, although the East and East Midlands have both seen huge increases in their expected shortfalls to put them on a par with the Capital. Wales expects to see the lowest shortfall in work experience placements with 87% of required places expected to be filled.

Section 4: Higher Education in the Built Environment

Student enrolments on built environment courses

The Higher Education Statistics Agency (HESA) is the official agency for the collection, analysis and dissemination of quantitative information about higher education.[7]

Akin to information collected by the Trainee Numbers Survey showing starters on construction related vocational training courses (see Section 1), it is also possible to obtain data from HESA on student enrolments on built environment courses at higher education. Thus providing a complete picture of training in the built environment.

However, it should be noted that the HESA data reproduced here is for the academic year 2006/2007 while Trainee Numbers Survey figures refer to 2007/2008, hence direct comparison is not advisable.

Table 9 shows the number of starters at higher education institutions split by qualification aim and subject area. Overall there were 23,656 students of which over half (55%) were studying towards a first degree with a further quarter (27%) beginning a post graduate degree. Ten percent commenced a Higher National Certificate with the remaining starters split between Higher National Diploma's and Foundation degrees.

Table 9 – Student enrolments on built environment courses by subject and qualification aim 2006/2007 (United Kingdom)

	Foundation Degree	Higher National Certificate	Higher National Diploma	First Degree	Postgraduate Degree
Civil engineering	197	578	306	3,098	1,356
Architecture	57	42	70	4,027	1,434
Building	509	1,540	590	4,202	1,212
Landscape design	33	20	28	242	185
Planning (urban, rural & regional)	108	159	60	1504	2,100
	904	**2,339**	**1,054**	**13,072**	**6,287**

A building course was the most popular choice for students accounting for a third (34%) of the overall total. This pattern was consistent across the Level 5 qualifications (Foundation Degree, Higher National Certificate and Higher National Diploma). The proportion of starters but the share was spread more evenly at First Degree level between both Building and Architecture. While at Postgraduate level Planning courses had the largest share of starters.

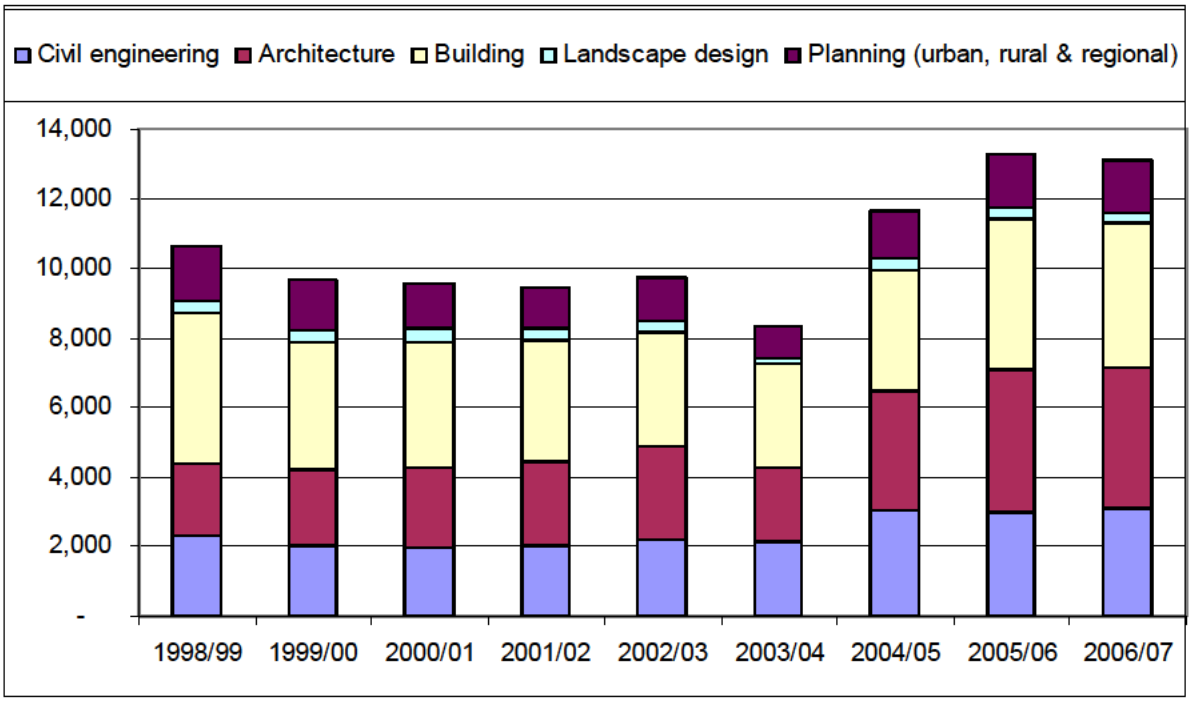
[7] For more information see www.hesa.ac.uk

First Degree

This section looks in more detail at First Degrees as these represent the largest share of higher education starters.

Chart 18 shows the nine year trend of students starting built environment first degrees. As it highlights, the total number of undergraduates was fairly stable between 1998/99 and 2002/03 at around 10,000. Following a decrease in 2003/04 the numbers increased significantly the following year (by 40%) and continued this rise in 2005/06 to a high of 13,260, decreasing slightly (1%) in 2006/07 to 13,072. This decrease is mainly due to the fall in enrolments on Landscape design degrees which fell by nearly a quarter in 2006/2007.

Chart 18 – Student enrolments on built environment courses by subject 2006/2007 (United Kingdom)



The gender split of undergraduates remained unchanged between the academic years 2004/05 to 2006/07 at approximately 25% female and 75% male. By subject, Architecture was most popular for females, accounting for just under half (48%) of all female students whereas Building degrees had the highest proportion of males at approximately a third (37%).

Chart 19 – Females enrolling on built environment courses by subject 2006/2007 (United Kingdom)

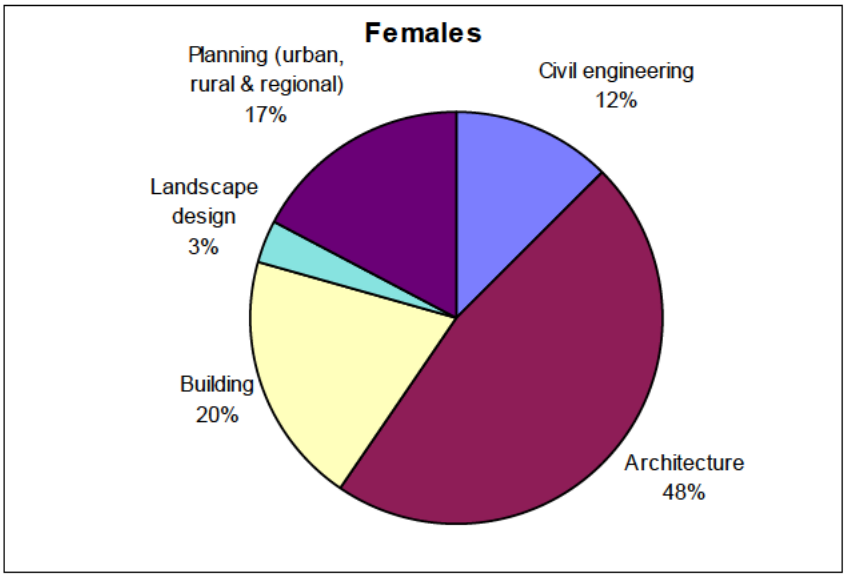
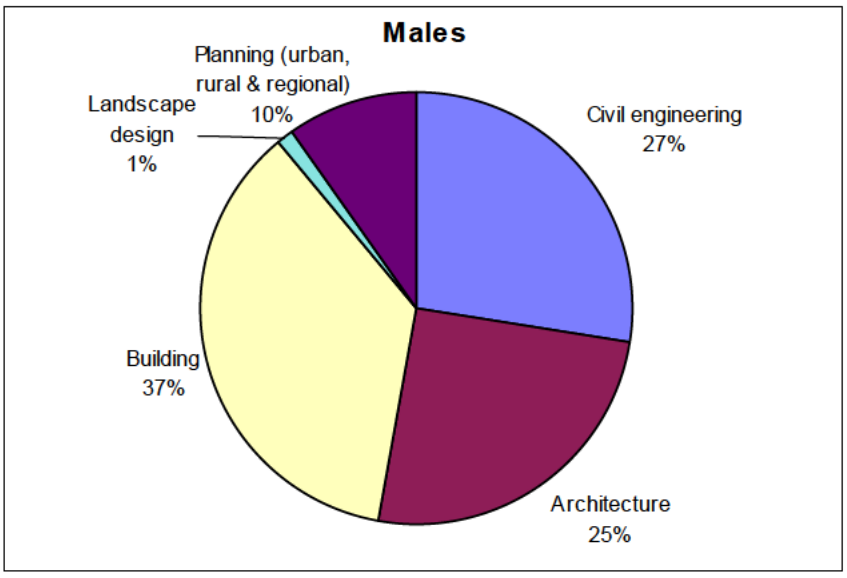


Chart 20 – Males enrolling on built environment courses by subject 2006/2007 (United Kingdom)



The ethnicity of undergraduates has also remained constant in the years 2004/05 to 2006/07 with the largest majority (80%) classified as white and 16% from an ethnic minority (the remaining 4% are unknown). The largest ethnic minority group are classified as 'Asian or Asian British – Indian' who account for approximately a fifth (22%) of all ethnic minorities.

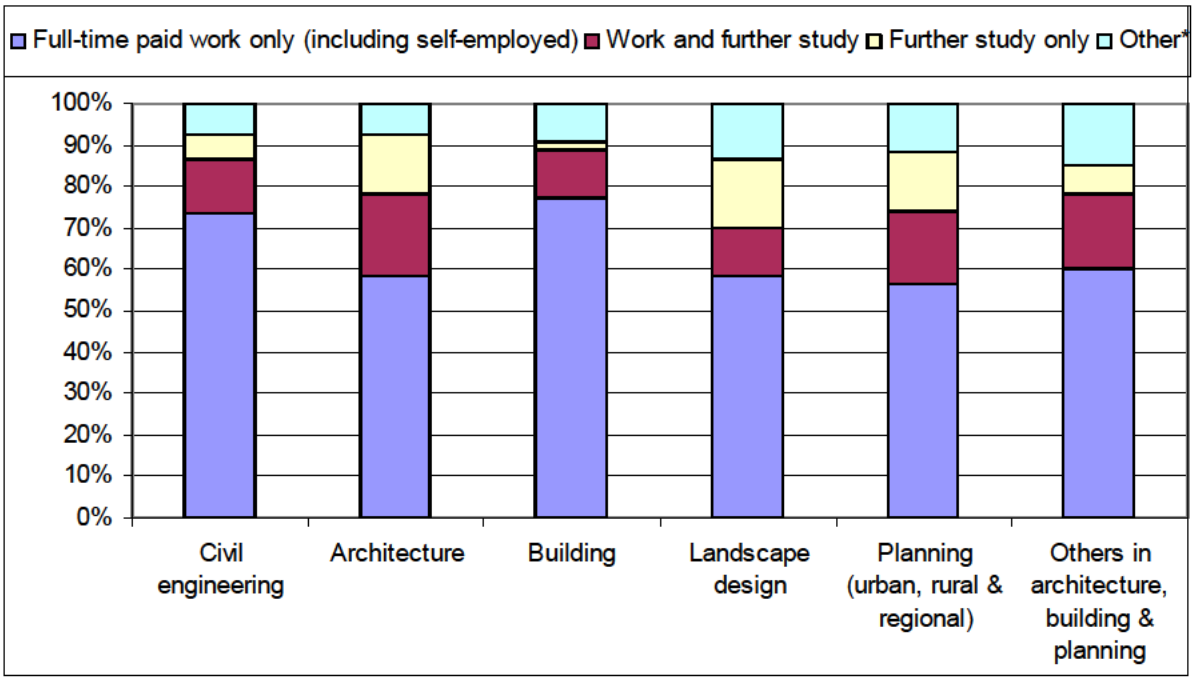
The representation of both females and students from ethnic minorities is higher at degree level than it is at craft and technical training (see Section 1). The Trainee Numbers Survey reports that 3% of craft and technical trainees are female and 6% are from an ethnic minority, compared to 25% and 16% respectively at degree level. In regard to females, the evidence suggests that their proportion increases in-line with the level of qualification – rising from 2% of craft trainees to 11% of technical students culminating in 25% of undergraduates.

Destinations of leavers from built environment degree courses

HESA also collects data on the destination of leavers from higher education. The following looks at graduates who obtained a first degree in the built environment during the academic year 2006/07.

Approximately two-thirds (67%) entered full-time paid work (including self-employment) during the first six months after graduation. A further 15% were combining work with further study whilst 9% progressed to further study only. Split by subject area the pattern was similar with slight variations as shown in Chart 21.

Chart 21 – Destination of built environment graduates by subject 2006/2007 (United Kingdom)



* Other includes those categorised as 'not available for employment', 'assumed to be unemployed', 'part-time paid work only' and voluntary/unpaid work only'

Building graduates had the highest proportion going into full-time paid work (including self-employed) whereas graduates of Landscape Design were more likely to progress onto further study.

Approximately three-quarters (72%) of graduates entering employment (both full-time and in conjunction with further study) were starting jobs in the construction sector (defined as SIC45 and SIC74.2). As would be expected, the occupation of those entering work mapped closely to the subject of study.

Conclusion

This report measures the amount of training taking place across the Built Environment and compares these findings to the predicted demand for skilled workers.

Overall the number of starters onto training across the Built Environment has remained broadly static in the past two academic years (for students at Higher Education this is for academic years 2005/06 to 2006/07). It is too early to state with any certainty whether the economic slow down, will have an adverse effect on training, but based on previous economic cycles a fall in new entrants cannot be ruled out.

Widespread press coverage[8] has reported the curtailment and closure of Apprenticeship schemes by numerous large House Builders. However whilst the house building sector has been particularly affected by the economic downturn, construction output continues to grow and thousands of new staff are still required to enter the industry each year, particularly in respect of high profile construction projects, most notably the Olympics. Therefore in the short-term the implications for training might be a shift away from the main trades (traditionally associated with house building) towards specialist and civil engineering trades. Currently the main trades are relatively well catered for, whereas in both specialist and civil engineering skills shortages are starting to develop among certain occupations. The picture differs depending on the nature of construction demand and training supply in each region, but the main reasons behind the shortfall are usually the same: availability of provision, cost of provision, and a time lag in developing new courses to meet the industry's changing needs.

The continued rise in trainees studying Construction Awards has come at the detriment of national vocational qualifications. A year-on-year increase over the past five years has seen their proportion, of all craft qualifications; escalate from 30% to 55%. In other words, currently over half of all trainees undertaking a qualification at craft level are studying towards a Construction Award. As a Construction Award does not require any proof of work undertaken on site it inevitably does not require an employer element, thus possibly making them more appealing to training providers to offer. This is a major cause for concern as students are not necessarily studying courses appropriate to the industry's future skill demands, possibly leading to associated skill gaps in the future.

[8] Contract Journal 9th July 2008 "Apprenticeships axed as housing crisis bites"

Appendix

Figure 1 – First-year trainees by geographical area 2007/2008 (Great Britain)

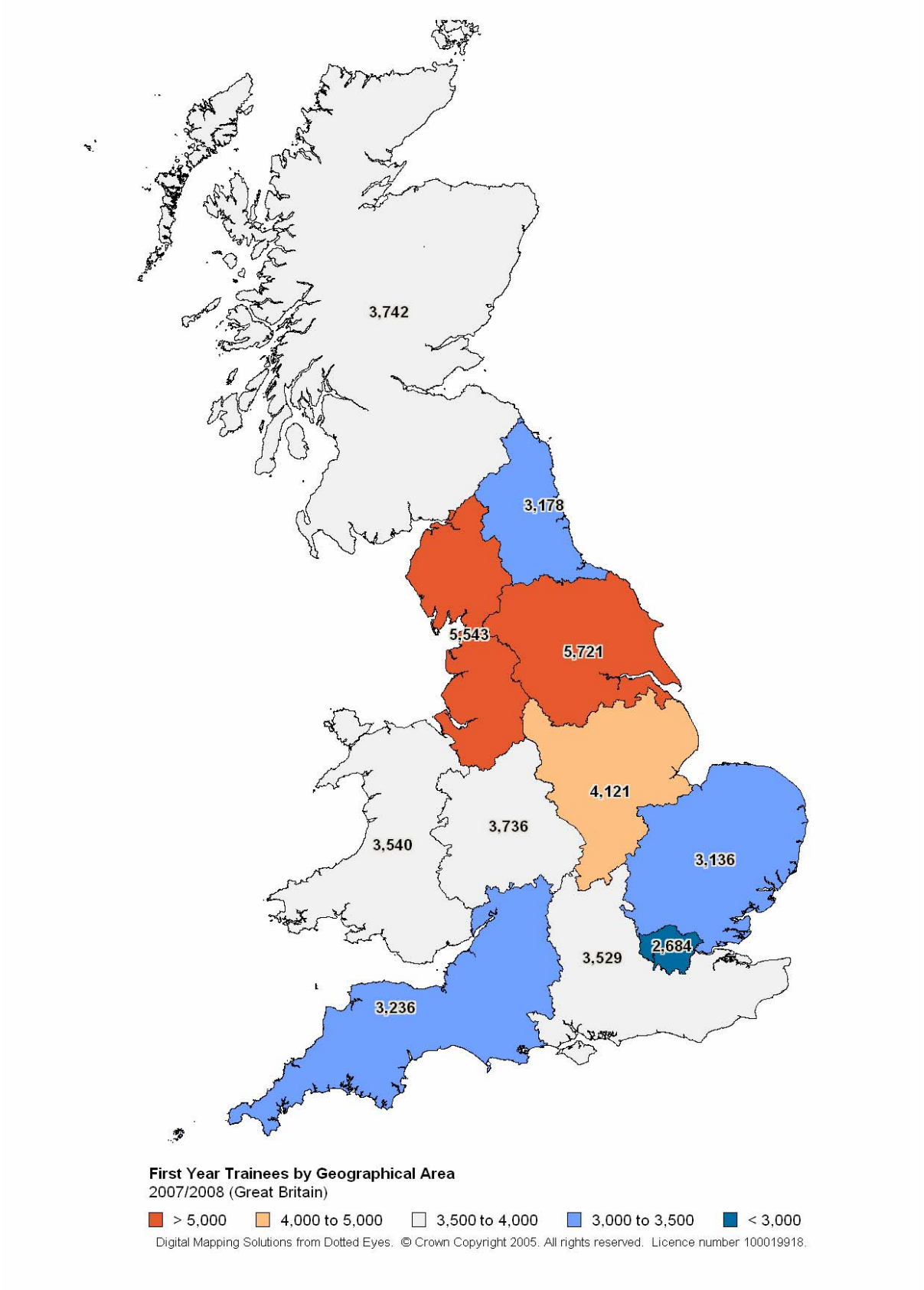


Figure 2 – Forecasted annual average requirement for skilled workers by geographical area 2008-2012 (Great Britain)

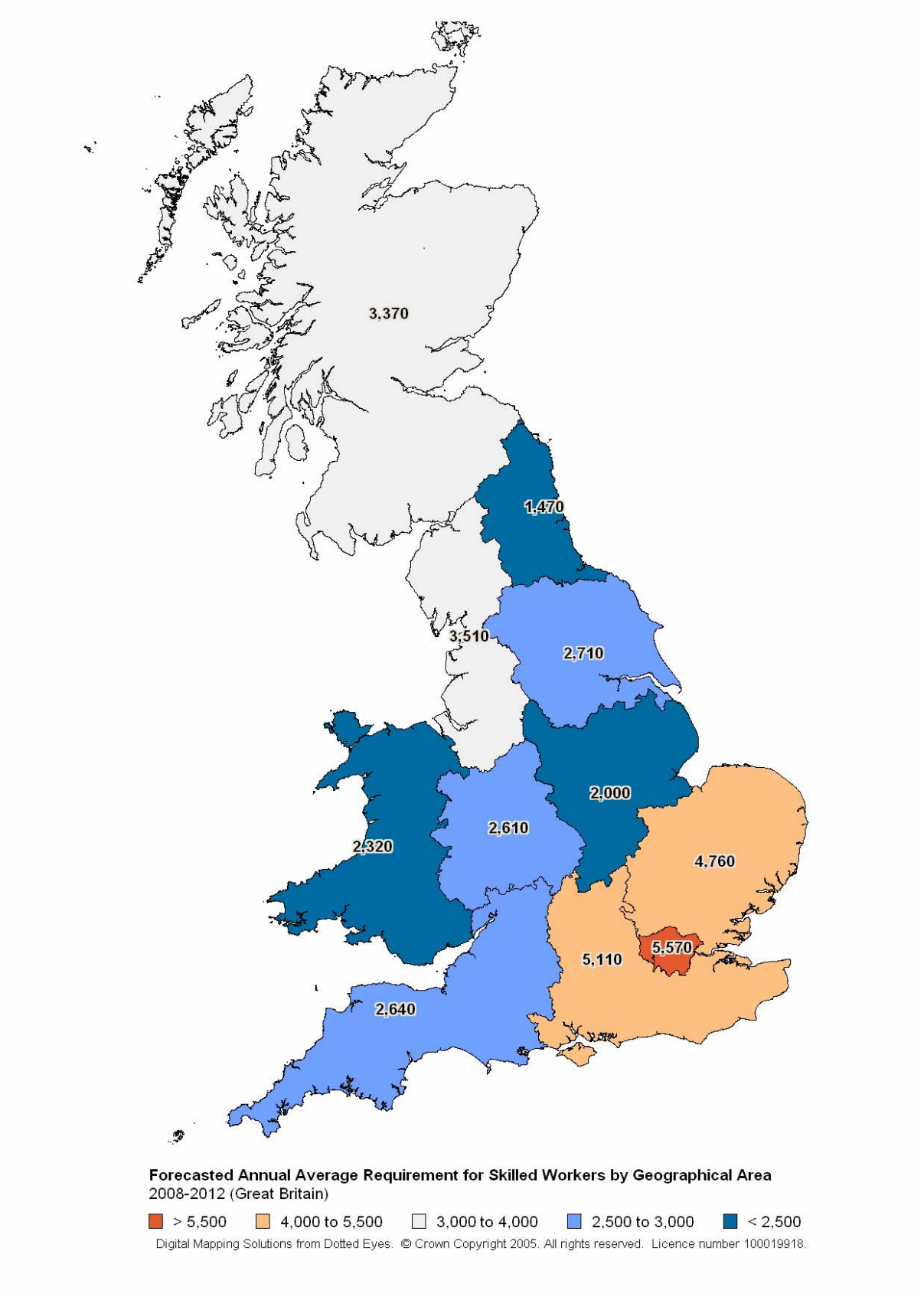


Figure 3 – Applicants to construction courses in the main trades by geographical area 2007/2008 (Great Britain)