



Action⁴skills

The Construction Sector





Action⁴skills

Targeting the sectors
vital to Hertfordshire's
economy



Executive Summary

Key statistics

	Construction	All Herts
Business base		
No. of business establishments	6,400	49,200
Micro-businesses (<10 employees)	6,000	42,600
% <i>business base</i>	94%	87%
% <i>employment</i>	35%	22%
Workforce		
Total workforce	63,000	549,500
Employees	37,400	487,600
Self-employed as % workforce	40%	13%
Part-time employment	9%	34%
Female employment	18%	50%
Workforce aged under 25	11%	14%
Workforce aged 55 or over	19%	16%
Workforce dynamics		
Employment change 1998-2002	+8,300	-
% <i>Employment change</i>	+29%	-2%
Forecast change 2004-2013	+1,900	-
% <i>Forecast change</i>	+3%	+9%
Labour turnover p.a. (approx)	20%	n/a
% workforce in FT education 1yr ago	<1%	3%
Workforce skills		
Workforce with no qualifications	6,300	-
	10%	11%
Low skilled workforce (≤ level 1)	18,300	-
	29%	25%
High skilled workforce (level 4+)	10,700	-
	17%	26%
Workforce training in previous 13wks	12,600	-
	20%	27%
Skill needs		
Employers with hard-to-fill vacancies	450	-
% <i>business base</i>	7%	8%
Employers wt. skill gaps in workforce	1,000	-
% <i>business base</i>	16%	23%

Note: For definitions and sources see main report

Key messages

- Taking into account forecast employment growth and the pattern of workers entering the sector from full-time education, around 900 skilled new entrants to the workforce are required each year to 2008. Thereafter the number required may reduce to 4–500 per year.
- Given the high proportion of intermediate level skilled trade workers in the sector, LSC funded provision is central to the supply of new entrants to the construction workforce.
- Encouraging more women into the construction workforce would significantly expand the potential pool of labour. However, this will require significant changes to the culture and working practices of the sector.

- There is also an under-representation of young people (16–24 year olds) in the workforce.
- Learning provision for the sector needs to both enable growth and ensure a sustainable supply of skills in periods of stability or decline.
- Within Hertfordshire there is a relatively high concentration of construction employment in the districts bordering London. This suggests that there may be opportunities to co-ordinate provision with the LSCs for London North and London West.
- Skills gaps in the existing workforce are numerically most important in skilled trades (32% of the skill gaps identified by employers) and there is a need to ensure that workers in these occupations continue to update their skills.
- Within the construction sector in Hertfordshire around 64% or 4,100 managers and senior officials are not qualified to Level 4. Managerial skills gaps are widespread and management training provision for the existing workforce needs to be extended.
- Small businesses and the self-employed are difficult to engage in learning and the structure of the industry represents a significant challenge for ensuring learning provision is responsive to local needs.

Conclusions and recommendations

This paper outlines three workforce development priorities for the sector and makes a number of suggestions for employers and stakeholders to consider:

1. Ensuring a sufficient supply of skilled new entrants to the workforce.

- Review the recommendations of the London West LSC study on women in construction.
- Explore the opportunities presented by the 14–19 agenda and Apprenticeship reforms.
- Work with partners to identify clear pathways into construction employment for other potential workers (e.g. ex-offenders or the economically inactive).
- Further develop links with existing Construction Centres of Vocational Excellence (CoVEs) in neighbouring areas.
- Encourage more employers to offer workplace learning opportunities from work experience to Apprenticeships.

2. Encouraging SMEs to engage in workforce development.

- Investigate the potential of using public sector procurement as a driver to a more skilled and accredited workforce.
- Pilot more bite-size, flexible and mobile provision near major construction sites.
- Target managers with subsidised training to alleviate management skill gaps and develop a learning culture in Hertfordshire construction businesses.
- Encourage employers to engage in succession planning for the 1,900 managers and 9,900 other workers in the sector aged 55 or over.

3. Planning for sustainable learning provision in the event of future changes in the level of demand.

- Identify essential provision and develop partnership agreements to 'share the risk' and underpin key courses in the event of a downturn in the sector.

1.0 Introduction

This paper is one of a series that outlines the workforce dynamics and skills and training issues in key sectors in the Hertfordshire economy.

The series sets out:

- The demographics of the workforce in each sector
- The skills and qualifications profile of the workforce
- The likely demand for and supply of new skills and workers, now and in the future
- The local business drivers.

Where possible local data has been used for the analysis. However, where local data was unavailable, inferences have been made from regional and national data to provide a best estimate of local workforce dynamics. Unless otherwise indicated, figures are for Hertfordshire.

For the purposes of this paper, the construction industry includes building installation work, such as plumbing and electrical installation, and building completion work, such as plastering and joinery. It also includes general construction of buildings, civil engineering, renting of construction or demolition equipment with operator, and architectural and engineering activities (see Annex I).



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Key drivers of change

The construction sector is heavily dependent on confidence in the general economy and is often characterised by cyclical swings between high peaks and low troughs of business activity. Businesses tend to lay off staff during periods of economic downturn while struggling to recruit during periods of growth. As well as leading to skill shortages, this situation perpetuates the image of construction as a sector unable to offer job security, making it unattractive to young people with the aptitude to develop the technical and managerial skills necessary to take the sector forward. Problems caused by the cyclical nature of the sector have been exacerbated by some employers failing to take skills shortages seriously and attributing them to factors beyond their control.

Nevertheless given that the *'UK has been in its largest period of sustained economic growth since the 19th Century'*¹ it is possible to suggest that the sector may be able to break the cycle and see continued growth in the future. Evidence from both the Experian Business Strategies (EBS) Hertfordshire Employment Forecasting Model and the ConstructionSkills Employment Model suggest that employment growth in the sector will continue until at least 2006/7 (see Section 4). Beyond this date the EBS Model forecasts that employment levels will stabilise to 2013.

There are a number of construction projects currently underway or planned in the near future in and around Hertfordshire. The expansion plans for both Stansted and Luton airport have recently been unveiled, as well as the proposed development of housing along the M11 corridor. Furthermore, the University of Hertfordshire plans to continue the expansion of its new campus with the development of a teaching hospital².

Figure 1.1

Construction sector – SWOT analysis

Strengths

- An important and growing sector in the Hertfordshire economy
- A Sector Skills Council that is well established

Weaknesses

- Cyclical nature of the sector leading to fluctuations in demand for construction workers
- A traditional perception of the industry as offering poor working conditions, unexciting work and little prospect of career progression, although perceptions are changing

Opportunities

- Significant infrastructure and housing developments planned in and around Hertfordshire
- The prioritisation of construction as one of the key industries for support in the East of England Adult Skills Pilot
- Industry-wide support for a fully-qualified workforce based on improved skills assessment, and greater encouragement for workers to gain qualifications
- Reforms to the Apprenticeship offer that will give young people (from 14) 'tasters' of working in the sector and potentially offer a new route into the sector for those aged over 25
- Potential recruitment of skilled workers from Eastern Europe and the European Union accession countries

Threats

- Competition for skilled workers and potential new entrants from high wage opportunities in the capital
- Significant numbers of self-employed and small business managers, who are often more difficult to engage in a learning culture than managers in larger businesses
- Increasing proportion of 16–19 year olds continuing in education and seeking academic rather than vocational qualifications
- High levels of over-subscribed education and training programmes within the sector

The East of England has also been highlighted as a key area for development by the Housing Corporation's³ *'Affordable Homes Programme'*, which includes the development of homes for workers who provide key services to local communities⁴. The Hertfordshire Structure Plan makes provision for the building of around 3,250 new homes in the county each year until at least 2011.⁵

ConstructionSkills⁶, the Sector Skills Council (SSC) for the construction sector, also suggest that the market for pre-fabricated buildings is expected to show continued growth in the coming years, mainly due to the benefits of increased productivity, levels of consistency, improved waste reduction and economies of scale.

The move to pre-assembly will have significant implications on future skill requirements. In particular, construction and site managers (who account for 5% or approximately 3,200 employees in the Hertfordshire construction workforce) could see a need for better IT, communication, collaboration, planning, quality control and general business skills. However, for some crafts workers the move to pre-fabrication could reduce the level of skills required.

Workforce development priorities

A perennial issue for many construction employers in Hertfordshire is attracting competent young people to join the sector, particularly in the context of the expansion of Higher Education and high levels of wage competition in London, the South East and the East of England. For many young people, construction has an image of hard work, low pay and poor prospects. Furthermore, the industry has a significant under-representation of both women and ethnic minorities compared with other industries.

There is also a recognised problem of a low skill equilibrium within the sector, where employers look for cheap, low skill labour to keep costs down, and individuals do not receive the opportunities to improve their skills. The skill levels of construction staff (excluding the architectural and engineering activities sub-sector) are still relatively low and skill gaps remain an issue within the sector, particularly for managers and within skilled trades.

Despite, or possibly as a consequence of, initiatives to improve the recruitment of new entrants into the industry, there remains an issue with capacity. ConstructionSkills suggest that nationally 75% of colleges expected their construction courses to be over subscribed in 2003/04 and that the East of England is no exception⁷. Indeed, anecdotal evidence confirms that construction courses in Hertfordshire were oversubscribed last year in at least one of the four local colleges.

This paper suggests that the most pressing workforce development needs over the next 3–5 years for the Hertfordshire construction sector will be:

1. Ensuring a sufficient supply of skilled new entrants to the workforce.
2. Encouraging SMEs to engage in workforce development.
3. Planning for sustainable learning provision in the event of future changes in the level of demand.

These will be revisited in the Conclusions and Recommendations Section on page 17.

¹ HM Treasury Budget Speech 2004

² Hertfordshire LSC Annual Plan 2004-05

³ The Housing Corporation is a Non Departmental Public Body, sponsored by the Office of the Deputy Prime Minister. They fund and regulate housing associations in England

⁴ Housing Corporation Press Release: Boost For Key Workers And Modern Methods In Biggest-Ever Affordable Homes Programme March 2004

⁵ Hertfordshire County Council. Structure Plan 1991-2011.

⁶ Incorporating the Construction Industry Training Board (CITB)

⁷ ConstructionSkills 2004. Action for Skills – East of England

2.0 Construction in the Hertfordshire economy

This section looks at the importance of the construction sector in Hertfordshire and outlines the extent of construction employment in the county.

Key messages

- Construction is an important sector in the Hertfordshire economy both in terms of economic output and employment.
- There are around 6,400 construction establishments in Hertfordshire, employing around 37,400 employees. Self-employed people account for around 40% of the total construction workforce, or 25–26,000 people.
- Ensuring an adequate supply of new skilled entrants to the workforce will be key to the future development of the sector.
- Within Hertfordshire there is a relatively high concentration of construction employment in the districts bordering London.
- This suggests that there may be opportunities to co-ordinate provision with the LSCs for London North and London West.
- Around 94% (around 6,000) construction establishments are micro-businesses, accounting for around 35% of construction employees (around 13,000 people).
- Less than 1% of construction establishments are large businesses, however they do account for around 31% of construction employment (around 11,800 employees).
- Self-employment and employment in micro-businesses are much more common in construction than many other sectors.
- The self-employed and micro-businesses are notoriously difficult to engage in learning and the structure of the industry represents a significant challenge for ensuring learning provision is responsive to local needs.

The importance of a sector to the local economy can be derived from a number of measures. Information from ConstructionSkills suggests that within Hertfordshire the value of new orders increased by 25% between 2001 and 2002 and construction output increased by 18.9% in 2000 and 18.1% in 2001.⁸ The most significant order increases were in infrastructure related developments (transport, communications, and development of land and utilities, health, education and community facilities).

In terms of employment, the Annual Business Inquiry (ABI) suggests that there are around 6,400 construction establishments in Hertfordshire employing approximately 37,400 employees. The construction sector accounts for around 8% of the employees in Hertfordshire, slightly above the proportion employed in the sector nationally (6%).

It should be noted that the ABI (and many other labour market information data sources) do not include self-employed people. However, in the construction sector, self-employed workers are a significant element of the total workforce. The Labour Force Survey (LFS), which does include the self-employed, suggests that there are 25–26,000 self-employed people working in construction within Hertfordshire (40% of the total workforce).

Figure 2.1 shows that construction generally accounts for between 7 and 10% of total employment in each of the ten local districts.

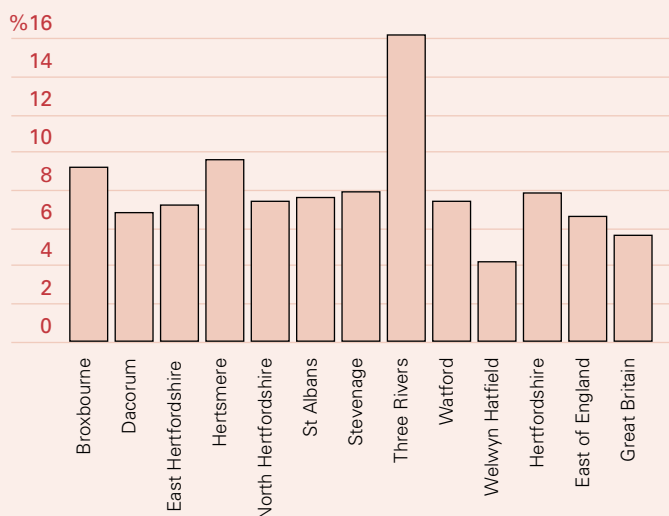
The main exceptions occur in Three Rivers where construction employment is significantly higher (16% or around 4,300 people) and Welwyn Hatfield where employment is significantly lower (4%, or around 2,500 people).

Figure 2.2 shows that numerically Hertsmeire District has the highest number of employees but that Dacorum has the highest number of construction business establishments. Three Rivers has the highest concentration of construction employment with a Location Quotient⁹ (LQ) of 2.11. Welwyn Hatfield has the lowest concentration of employment in Hertfordshire (LQ of 0.54).

Interestingly, the three districts with the greatest concentration of construction employees border London (Three Rivers, Broxbourne and Hertsmeire). This suggests that establishments in these areas are likely to be servicing the needs of the capital as well as Hertfordshire.

Figure 2.1

Construction as a proportion of total employment – Hertfordshire districts



Source: ONS Annual Business Inquiry, 2002
Note: Figures do not include the self-employed

Figure 2.2

Construction employees and business establishments – in Hertfordshire districts

District	Establishment	Employees	% of Sector	LQ
Broxbourne	576	2,920	8	1.19
Dacorum	985	4,214	11	0.86
East Herts	959	4,021	11	0.93
Hertsmeire	494	4,406	12	1.25
North Herts	716	3,610	10	0.95
St Albans	772	4,036	11	0.96
Stevenage	393	3,129	8	1.01
Three Rivers	533	4,266	11	2.11
Watford	480	4,238	11	0.96
Welwyn Hatfield	494	2,525	7	0.54
Total	6,402	37,365	100	

Source: ONS Annual Business Inquiry, 2002
Note: Figures do not include self-employed

Some 94% of the construction establishments in Hertfordshire (around 6,000) are 'micro-businesses' employing between 1 and 10 people. This is higher than the figure for all industries in Hertfordshire (87%). Despite the high proportion of small businesses, large businesses (over 200 employees) still account for 31% of construction employment (around 11,800 employees).

Nevertheless, the proportion of the construction workforce in micro-businesses (35% or 13,000 employees) is significantly higher than the proportion of workers in the same type of establishments in the economy as a whole (22%).

The importance of micro-businesses in the construction sector has implications for workforce development initiatives. Historically, stakeholders have found it difficult to encourage owners and managers of establishments of this kind to engage in workforce development or their own lifelong learning. This is unfortunate in that some micro-businesses may grow to be significant employers in the future. However, the reality for many small and micro-businesses is that they cannot provide cover for people engaged in learning away from the workplace and this time represents lost income in addition to the direct costs of the training.

The Standard Industrial Classification (SIC) used in national statistics divides construction into six sub-sectors. These are site preparation, building of complete constructions/civil engineering, building installation, building completion, renting of construction or demolition equipment with operator, and architectural and engineering activities.

Figure 2.3 shows that 58% or approximately 21,600 construction employees work in the building of complete constructions and a further 17% (around 6,500) work in building installation. Architectural and engineering activities account for around 15% or 5,400 construction employees in Hertfordshire.

Looking at the sector in more detail, Figure 2.4 shows that almost 44% (around 16,300) employees work in the general construction of buildings. Architectural and engineering activities also account for a significant proportion of construction employees (15% or approximately 5,400 people).

- ⁸ ConstructionSkills 2003 Construction Regional Skills Foresight Report 2003 (East)
⁹ Location quotients indicate the relative strength of the sector in the district. An LQ of more than 1 signifies that a district has a higher concentration of employment in the sector relative to Hertfordshire as a whole. An LQ of less than 1 indicates that a district has a lower concentration than Hertfordshire as a whole.

Figure 2.4

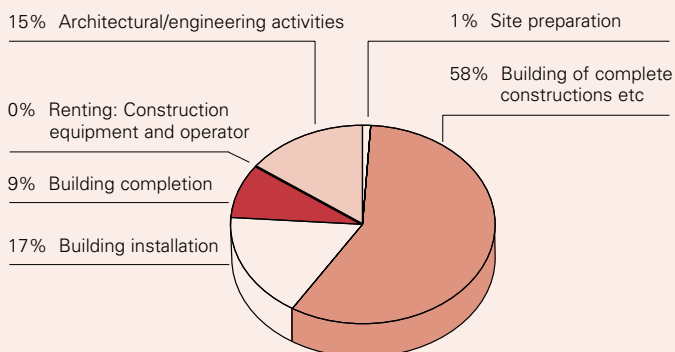
Employees by minor sub-sector – Hertfordshire

Minor sub-sector	% of construction employees	Estimated number of jobs
General construction of buildings	43.5	16,300
Architectural/engineering activities	14.5	5,400
Installation: electrical wires/fittings	9.0	3,300
Other construction involving special trades	8.9	3,300
Plumbing	6.2	2,300
Construction of highways, roads	3.7	1,400
Joinery installation	3.1	1,200
Painting and glazing	2.7	1,000
Other building completion	2.0	800
Other building installation	1.9	700
Erection of roof covering and frames	1.6	600
Demolition and wrecking of buildings	1.2	400
Others	1.7	600

Source: ONS Annual Business Inquiry, 2002.
 Note: Figures do not include self-employed

Figure 2.3

Employment by sub sector – Hertfordshire



Source: ONS Annual Business Inquiry, 2002
 Note: Figures do not include the self-employed

3.0 The Current Workforce

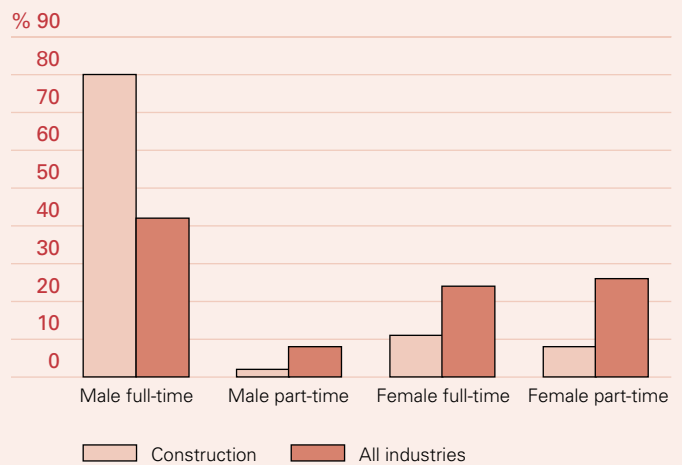
This section profiles the current workforce and typical employment opportunities in the sector. It also looks at the current supply and demand for skills in the construction sector

Key messages

- There are conflicting messages about the extent of construction recruitment difficulties in Hertfordshire and the East of England.
- However, there is some consensus that there is an unmet demand for skilled new entrants and an under-representation of 16–24 year olds in the workforce (currently account for around 7,000 people or 11% of the sector workforce).
- Around 19% or 11,800 of the workforce are aged over 55, this proportion increases significantly amongst the managers and senior officials (around 27% or 1,900 people) and the self-employed, where around 22% are over 55.
- This does highlight a need for employers in the sector to engage in succession planning not just in terms of recruiting young people but in ensuring there are development routes for existing skilled trade workers to replace more experienced staff when they retire.
- 50% of the sector's workforce are skilled trades workers and LSC funded provision will be central to the supply of skilled new workers in these occupations.
- The sector continues to be dominated by male labour and encouraging more women into the construction workforce would significantly expand the potential pool of labour. However, this will require significant changes to the culture and working practices of the sector.
- There are around 4,400 (64%) managers and senior officials not qualified to Level 4. Some 18,300 (29%) construction employees are not qualified to Level 2, although around half of these are self-employed people who may have significant levels of experience.
- Skills gaps in the existing workforce are numerically most important in skilled trades and there is a need to ensure that workers in these occupations continue to update their skills.
- However, managerial skills gaps are also widespread and management training provision for the existing workforce needs to be extended.

Figure 3.1

Gender and employment status



Source: ONS Annual Business Inquiry, 2002
Note: Figures do not include the self-employed

Figure 3.2

Gender and employment status of construction workers – district areas

District area	Male full-time (%)	Male part-time (%)	Female full-time (%)	Female part-time (%)
Broxbourne	82	1	10	7
Dacorum	77	2	12	9
East Herts	78	2	11	9
Hertsmere	80	1	13	5
North Herts	78	3	10	9
St Albans	73	3	13	11
Stevenage	85	1	8	5
Three Rivers	83	1	11	5
Watford	85	1	9	5
Welwyn Hatfield	78	2	10	9

Source: ONS Annual Business Inquiry, 2002
Note: Figures do not include self-employed

Demographics of the sector

The construction sector is heavily reliant upon male labour. Around 30,500 or 82% of the construction workforce are male, compared with approximately 50% in all industries.

Only 9% or around 3,400 construction employees work part-time compared with around 34% in all industries. The relative lack of part-time and flexible working opportunities could be one barrier to engaging more women in the construction workforce.

However, female employees are significantly more common in the 'architectural and engineering' sub-sector than in construction as a whole, accounting for 42% of the sub-sector workforce, or approximately 2,300 employees.

A recent study undertaken by the LSC for London West looked at the under representation of women in the construction sector and explored the issues preventing women joining the industry¹⁰. The key barriers were outlined as the perceived image of the industry, a lack of understanding and information of the breadth of trades within the industry and career paths, fear of being a minority in the workforce, and a lack of diversity management and support on site.

Figure 3.2 shows that the employment structure of the sector is broadly similar across each district. However, St Albans does have a higher than average proportion of female workers (24% compared with 18% for Hertfordshire). Stevenage and Watford have the smallest proportion of female workers (14%).

At the national level, ethnic minority communities account for around 10% of employment in the sector, compared with 15% for all industries. Census 2001 data reveals that there is a smaller proportion of people from ethnic minority backgrounds in Hertfordshire than in England and Wales as a whole. We estimate that there are around 4,100 people from ethnic minority backgrounds working in the construction sector in Hertfordshire (between 6 and 7% of the construction workforce).

Figure 3.3 suggests that the construction workforce has a slightly older age profile than the economy as a whole. A smaller proportion of construction workers are aged between 16 and 24 compared with all industries (11% compared with

14%). Currently around 11,800 people or 19% of the workforce are aged 55 or over (compared with 16% for all industries). The recruitment of young people remains an important issue for many construction employers.

In addition, the overall figures conceal significant variations in the age profiles of different occupations within construction. A significantly greater proportion of managers within construction are aged over 55 compared with all industries, for example (27% or 1,900 and 16% respectively). Anecdotal evidence suggests that employers commonly perceive that the ageing workforce is particularly acute in skilled trade occupations. Perhaps surprisingly, the age profile of those within skilled trades occupations is relatively young (14% are aged 16–24).

However, it could be that the real issue is the level of experience within an occupation. A joiner with 30 years experience is likely to have a much higher skill level than a recent trainee, although the trainee may have more up-to-date knowledge of new practices. This does highlight a need for employers in the sector to engage in succession planning not just in terms of recruiting young people but in ensuring there are development routes for existing skilled trade workers to extend their skills in order to replace more experienced staff when they retire.

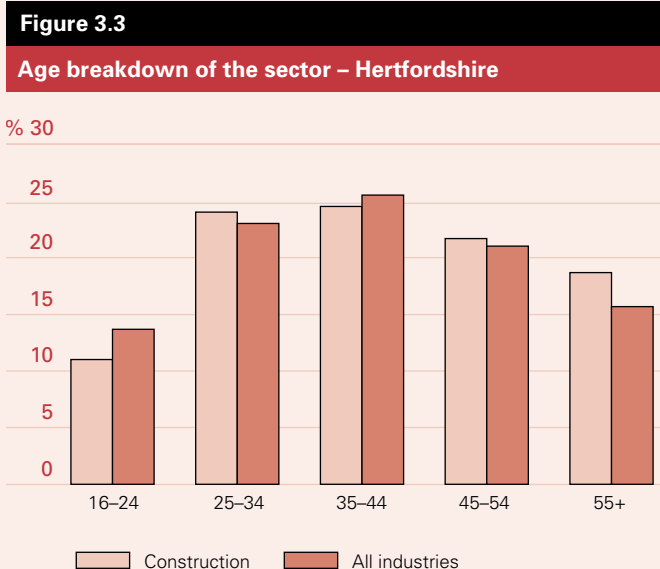
Self-employed construction workers also have a significantly older age profile than the sector workforce as a whole 22% (around 5,600 people) are aged over 55 and just 7% (1,700) are aged 16–24. It seems reasonable to suggest, therefore, that many self-employed workers are trading on their experience and the skills they have developed over some time.

Travel to work

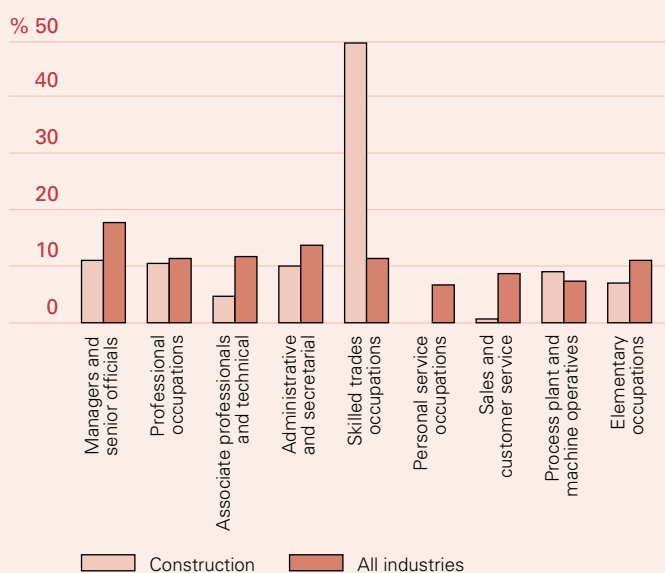
Information from the construction Industry Training Board¹¹ suggests that the average travel to work distance for construction workers in Hertfordshire is around 23 miles. Regionally the report found that building services engineers,

¹⁰ LSC London West 2004. Building your future: The barriers to women entering the construction industry and possible actions.

¹¹ CITB 2002. Another Brick in the Wall: A study of Construction Training in the East of England.



Source: ONS Labour Force Survey, Spring 2003. Inferred data.
Note: Figures include the self-employed

Figure 3.4**Broad occupational breakdown – Hertfordshire**

Source: ONS Labour Force Survey, Spring 2003. Inferred data
 Note: Figures include the self-employed

ground workers and plant operators travelled the furthest to get to work. As might be expected, staff based on construction sites were found to be travelling further than other workers in the sector. The majority of office workers in construction were found to live within 10 miles of their work.

This suggests that learning provision for those working on construction sites may need to be flexible geographically and ideally should involve learning opportunities near both home and work. As construction sites may be outside Hertfordshire, there may be a need to co-ordinate learning provision for Hertfordshire construction workers with colleges in neighbouring LSC areas.

Occupational analysis

Figure 3.4 shows the broad occupational breakdown of employment in the sector. Around half (31,500 or 50%) of all construction jobs are skilled trades, a far greater proportion than is found across all industries (12%). For self-employed construction workers, skilled trades occupations account for 70% of the workforce (around 18,100 people).

Process, plant and machine operatives also account for a slightly greater proportion of workers than in the economy as a whole.

Around 11% of construction employees work as professionals (around 6,800 people) and a similar proportion are managers and senior officials. However, in the architectural and engineering sub-sector, 48% of workers are professionals and 17% are managers and senior officials, skilled trades occupations account for only 7% of the sub-sector.

Figure 3.5 shows that around 48% of employment in the construction sector is in "sector specific" occupations (approximately 30,700 jobs). These are occupations where over two thirds of employment is in the sector. The concentration of workers in these occupations in construction would suggest that sector-based initiatives would be most appropriate to develop the skills of these workers. However, Figure 3.5 also

Figure 3.5**Employment in specialist occupations – Construction**

Occupation	Employed	Self-employed	Total workforce
Construction trades n.e.c.*	1,300	3,400	4,800
Carpenters and joiners	1,100	3,300	4,500
Plumbers, heating and ventilating engineers	1,700	2,000	3,700
Painters and decorators	400	2,700	3,200
Managers in construction	2,600	600	3,200
Bricklayers, masons	900	1,800	2,700
Construction operatives n.e.c.*	900	1,000	1,900
Civil engineers	1,100	300	1,300
Plasterers	200	900	1,200
Floorers and wall tilers	200	600	900
Scaffolders, staggers, riggers	400	400	700
Roofers, roof tilers and slaters	300	500	800
Build and civil eng technicians	600	0	600
Other	600	400	1,200
Total Sector Specific	12,300	17,900	30,700

Source: ONS Labour Force Survey, Spring 2003. Inferred data. Totals may not sum due to rounding.
 * Not elsewhere classified

Figure 3.6**Employment in other significant occupations in Construction**

Occupation	Employed	Self-employed	Total workforce
Electricians, electrical fitters	2,500	1,500	3,900
Labourers, building and woodworking trades	900	1,600	2,500
General office assistants or clerks	1,300	500	1,700
Personal assistants and other secretaries	1,200	0	1,400
Glaziers, window fabric and fitters	500	700	1,200
Metal working production and maintenance fitter	900	300	1,200
Quantity surveyors	1,000	100	1,100
Accounts wages clerk, bookkeeper	1,000	100	1,100
Marketing and sales managers	800	100	900
Other	14,900	3,000	17,700
Total	25,000	7,900	32,700

Source: ONS Labour Force Survey, Spring 2003. Inferred data. Totals may not sum due to rounding.

highlights that over half (58%) of these specialist workforce are self-employed. Engaging these workers in learning represents a significant challenge for the LSC and its partners.

General construction trade occupations make up the greatest proportion of the industry's overall workforce (7.6% or around 4,800 jobs). Other significant specialist occupations include carpenters and joiners (7.1% or 4,500 jobs) and plumbing, heating and ventilating engineers (5.9% or 3,700 jobs).

Figure 3.6 shows the occupations which are not specific to the construction sector. Cross-sector initiatives to support workforce development may be more appropriate for these occupations.

Electricians and electrical fitters form a significant proportion of the sector's workforce (around 6% or 3,900 jobs). Whilst, electricians are employed in other sectors, it is worth noting that 63% of people in this occupational group do work in construction.

Skills and qualification issues

The analysis of skills in this paper uses qualifications as a proxy measure for skill level. Whilst this is not ideal, qualifications are the best measure available. Three broad skill levels are used:

Low skill (NVQ 1 or less including those with no qualifications). Common skills requirements for these jobs at this level include basic literacy, numeracy and IT skills and a range of generic skills.

Intermediate skill (NVQ 2-3). Skill requirements in these occupations are often vocational or technical in nature. They may also require higher level generic skills including analytical and problem solving abilities.

High skill (NVQ 4+). These skills are important in managerial and professional and associate professional roles. They are sometimes technical in nature but usually require high level analytical, communication and people management skills.

The Hertfordshire LSC Annual Plan 2004–05 highlights that

overall the working population of Hertfordshire has the highest skills levels within the East of England.

Figure 3.7 illustrates the importance of intermediate skills to the construction industry with over half (around 33,500 people or 53%) of the workforce possessing skills at this level. This is reflective of the importance of skilled trades to the industry. High level skills are less common than in all industries (17% compared with 26%). Low level skills are more commonly found in the construction sector, with around 29% of the total workforce (18,300 people) not qualified to Level 2.

Skills levels in the architectural and engineering activities sub-sector contrast sharply with other construction sub-sectors. In this sub-sector around 61% (5,400) of the workforce have high level skills compared with just 12% (6,500 people) in other construction sub-sectors. Intermediate level skills are far more common in other construction sub-sectors, with 56% (30,400 people) qualified to this level, compared with 28% (2,500 people) for architectural and engineering sub-sectors.

The self-employed are both more likely to have Level 3 qualifications (39% compared with 29% of employees) and to have no qualifications at all (22% compared with 11%). Whilst this seems confusing at first, it is consistent with the idea that the self-employed are trading on relatively high levels of skills and experience. The age profile of the self-employed suggests that some will have gained their experience in an era when formal qualifications were less important.

Skills shortages and gaps

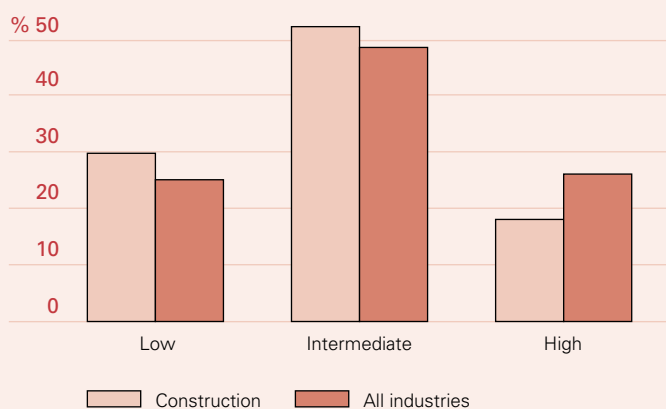
The National Employer Skills Survey (NESS) offers some insight into the sectors skills shortages (a lack of suitably skilled people in the labour market) and skills gaps (skills deficiencies in the existing workforce). It is important to note that the NESS does not include the self-employed or businesses with only one employee.

Skills shortages – recruitment difficulties

Figure 3.8 shows that vacancies are less commonly reported by

Figure 3.7

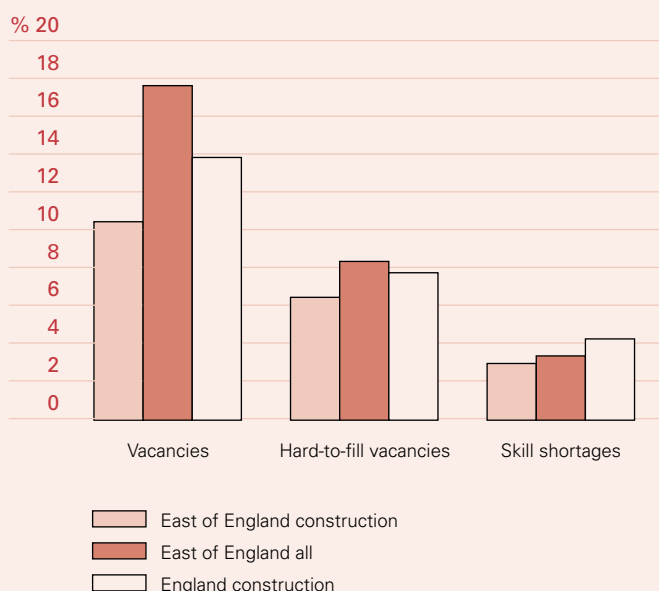
Skill levels – broad analysis – Hertfordshire



Source: ONS Labour Force Survey, Spring 2003. Inferred data
Note: Figures include the self-employed

Figure 3.8

Recruitment difficulties and skill shortages



Source: LSC National Employer Skills Survey, 2003. Inferred data.
Note: Figures do not include the self-employed or businesses with only one employee

construction employers in the East of England than by employers in all industries in the region. Furthermore, fewer construction employers report vacancies in the East of England than nationally. Hard-to-fill vacancies are reported by around 7% of construction employers in the East of England (equivalent to 450 employers in Hertfordshire) and skill shortage vacancies by around 3% (equivalent to 200 employers).

However, the 2002 CITB Employers' Skill Needs Survey contradicts the NESS findings and suggests that within the East of England 80% of companies reported difficulties in recruiting skilled staff in the previous three months (compared with 79% in Great Britain). The difference could be due to the nature of the NESS, which asks business establishments about vacancies at the time of the survey. Given the high proportion of micro-businesses found in construction the chances of an individual business having a vacancy at a specific point in time is more limited.

The CITB survey suggests that regionally the greatest difficulties are experienced in recruiting carpenters and joiners (41%), professionals (32%) and managers and supervisors (both 22%). It also reports that the greatest skill shortages reported on Hertfordshire construction sites were bricklayers, carpenters and dry liners.

Skills gaps

The NESS also suggests that construction employers in the East of England report significant skills gaps in their existing workforce. However, reported skills gaps were less common in construction than in the regional economy as a whole. Around 16% or 4,000 construction employers report skills gaps compared with 23% in all industries in the region.

Figure 3.9 shows that within the region the consequences of skills gaps in the sector differ slightly from those experienced in all industries. Construction employers are more likely to report that skills gaps cause increases to operating costs (51% compared with 38%) and less likely to report that they cause a loss of business.

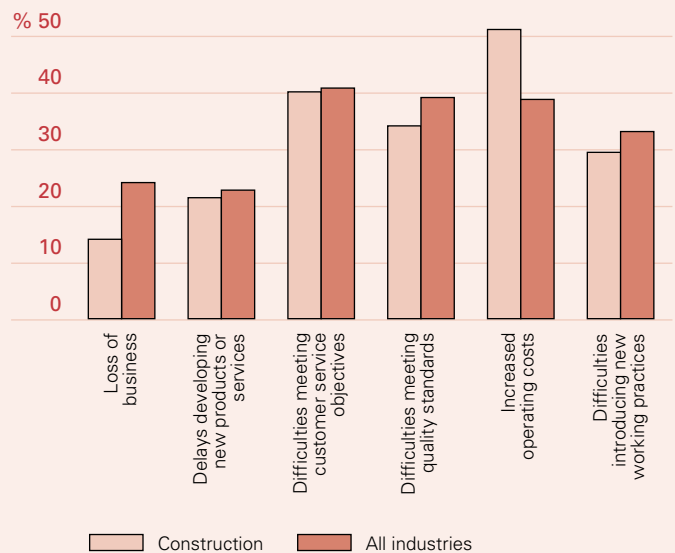
Figure 3.10 shows the incidence of skills gaps in the four largest occupational groups in the construction sector compared with the proportion of the workforce found in each occupation.

Around a third (32%) of the skill gaps identified by employers are related to skilled trades occupations. Whilst meeting these needs is therefore important, it is interesting to note that they are less common than might be expected from the proportion of the workforce employed in the occupation (48%). It could be argued that skilled trades workers have relatively well defined and stable job roles with recognised entry level skill requirements that make skill gaps after they have entered the workforce less of a problem. Nevertheless, their numerical frequency highlights that they are a significant issue for the sector.

In contrast, skill gaps in managerial occupations are more common than might be expected (18% of skill gaps compared with 12% of employment). Interestingly around 64% or 4,400 managers are not qualified to Level 4.

Figure 3.9

Consequences of skills gaps – East of England



Source: LSC National Employer Skills Survey, 2003. Inferred data.
Note: Figures do not include the self-employed or businesses with only one employee

Figure 3.10

Proportion of skills gaps in key occupational groups – East of England

	Skilled trades	Manager/senior officials	Professionals	Admin/secretarial
% of workforce with skills gaps in occupation*	32%	18%	11%	10%
% of workforce in occupation	48%	12%	11%	10%

Source: LSC National Employer Skills Survey, 2003 and ONS Labour Force Survey, Spring 2003.
*Figures do not include the self-employed or businesses with only one employee.

This section looks at the changing nature of employment in the sector, the sector's training activity and the implications for learning provision.

Key messages

- The construction sector in Hertfordshire has experienced significant employment growth in recent years and this growth is expected to continue until at least 2006/7 (by 3% or 1,900 additional jobs), although employment in the sector is then expected to stabilise.
- Learning provision for the construction sector needs both to enable this growth and ensure a sustainable supply of skills in periods of stability or decline.
- Somewhat worryingly, there is evidence of intermittent employment in the sector even in this time of growth which suggests the need to raise the employability skills of a significant minority of the workforce.
- Annually, the most significant demand for new entrants to the workforce comes from the need to replace those leaving the sector or employment. The majority of those leaving the sector either change sector (63% or around 8,000) or leave employment altogether (31% or around 4,000).
- Problems with retention and achievement in Work Based Learning programmes need to be resolved if this is to be a significant route into the sector in the future and, critically, if more employers are to be encouraged to offer work placements.
- Evidence from the CITB suggests that retention rates can be improved if a basic skills assessment is carried out prior to acceptance.
- The increasing quantity of applicants for Apprenticeship positions (potentially further increases with the introduction of the 'Young Apprenticeship' scheme) and the current lack of employer placements imply that there is a need to encourage employers to help meet the demand for placements.
- The high proportion of SMEs in the sector is a significant challenge to workforce development initiatives as training levels in micro-businesses (1-9 employees) are notoriously low.
- The self-employed are also much less likely to engage in training than other construction workers and are likely to be amongst the hardest to reach.
- For micro-businesses and the self-employed time spent training often represents lost income in addition to any costs incurred from the training.

Employment in construction in 2002 was at a higher level than in 1998, with an overall increase of around 29% (8,300 employees) during this period. However, this figure masks a slight decline in employment in 2001-2002.

Figure 4.2 shows that the employment growth in the construction sector in Hertfordshire between 1998 and 2002 was spread across three sub-sectors. Interior and exterior finishing showed the largest increase, of 45% or around 1,000 employees, closely followed by building of entire dwellings and heavy construction, which increased by 42% (around 6,400 employees). Renting of equipment with operator showed the greatest decline, but it should be noted that the number of people employed in this sub-sector is small. Architectural and engineering services saw a decline of 12% or 700 employees. The reasons for this are unclear.

Figure 4.1

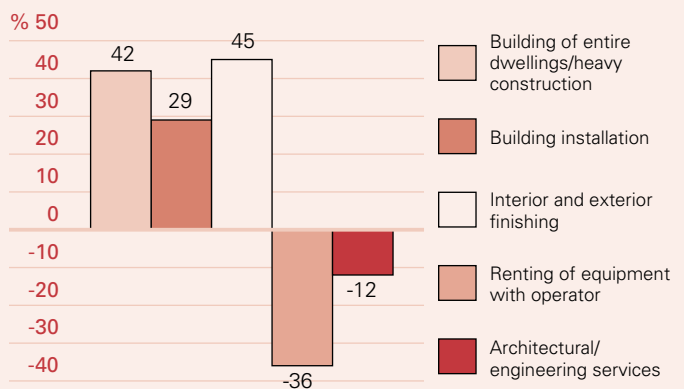
Annual employment change 1998-2002 - Hertfordshire

	1998	1999	2000	2001	2002
Employment	29,052	32,362	36,801	38,379	37,367
% change from previous year	-	+11.4%	+13.7%	+4.3%	-2.6%

Source: ONS Annual Business Inquiry 1998, 2002
 Note: Figures do not include the self-employed

Figure 4.2

Employment change 1998-2002 by sub-sector - Hertfordshire



Source: ONS Annual Business Inquiry 1996, 2002
 Site preparation is excluded due to the low level of employment in this sub-sector.
 Note: Figures do not include the self-employed

VAT registrations and de-registrations

VAT registrations and de-registrations also give an indication of sector growth and decline. Figure 4.3 shows VAT registrations and de-registrations as a percentage of business stocks at the end of the year. The definition of construction used in the VAT statistics does not include the architectural and engineering activities sub-sector.

Registrations are in line with the level of registrations across all industries (around 10%) and de-registrations are lower for construction than for all industries in the region.

De-registrations account for a slightly smaller proportion of business stocks (8%) than registrations (10%). This suggests that the net stock of businesses grew slightly between 2001 and 2002.

It should be noted that VAT registrations and de-registrations provide only an indication of what is going on in the sector. As well as businesses opening or closing down, the measures also include firms moving above or below the threshold for payment of VAT, currently £58,000 p.a. The measures do not take account of businesses below the VAT threshold, so very small businesses are not included.

Projected employment change

The Experian Business Strategies (EBS) forecasting model suggests that between 2004 and 2007 construction employment in Hertfordshire is expected to increase by around 3% (based on ABI/LFS data this equates to around 1,900 employees). Figure 4.4 shows that the industry is set to see increases in employment in line with all industries in the region until 2008, beyond which employment will level out. This is not unexpected given the significantly large increases in construction employment and output experienced in Hertfordshire over the past few years, which may not be maintainable in the long-term¹².

As we saw in Section 1.0, opinions differ as to the future growth potential of the construction industry, which has historically been highly cyclical but is currently operating in an environment of the longest period of sustained economic growth since the nineteenth century.

As can be seen in Figure 4.5, administrative and secretarial occupations and managers and senior officials are expected to see an increase in employment for the period between 2004 and 2010. This equates to around 2,800 jobs in the sector.

Employment in skilled trades, which currently accounts for over a third of all construction employment, is projected to fall slightly.

Employment flows

While projections suggest that new construction jobs will be created in the East of England, the majority of annual demand for new staff in any sector is to address natural turnover in the labour market, where people leave their current job through retirement, sickness and job changes for example. Around 20% of the construction workforce changes each year (equivalent to around 13,000 workers). This does not include people moving between jobs or sub-sectors within construction. Therefore, turnover experienced by an individual construction employer may be even higher.

The majority of those leaving changed sectors (63%), while a further (31%) left employment altogether, either through unemployment or due to other factors such as family commitments.

Fluctuations in employment may mean that trained or experienced construction workers find work in other sectors if their employer lays them off but return to construction at a later date. Some employers have reported turning towards recruitment of older people as a substitute for young apprentices.

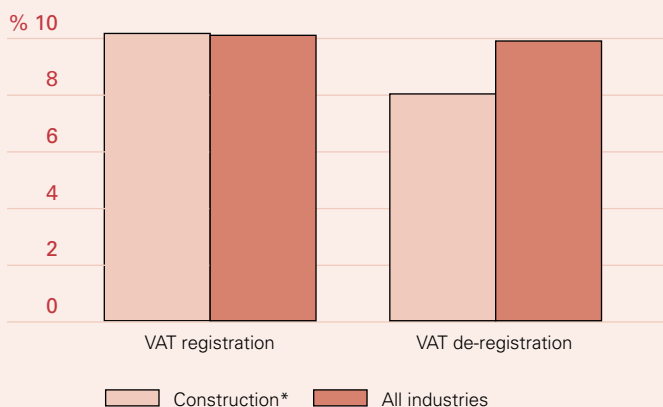
The significant minority of construction workers entering or leaving unemployment each year paints a somewhat worrying picture of intermittent employment for a proportion of the workforce. It seems likely that these workers would benefit significantly from developing their skills and improving their employability.

Anecdotal evidence suggests that migrants will be a significant

¹² Hertfordshire Local Economic Assessment 2002

Figure 4.3

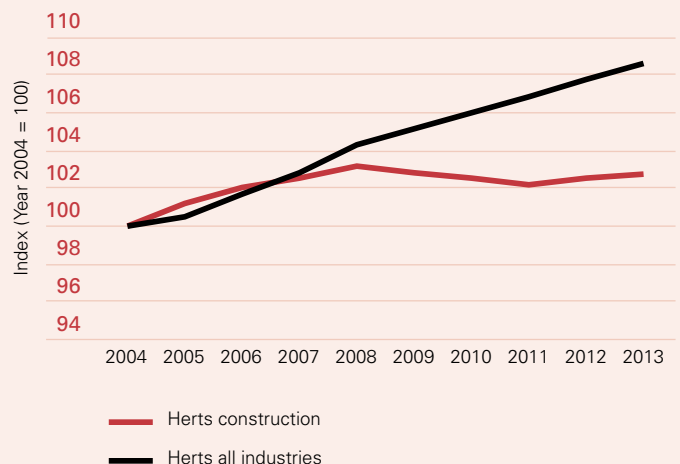
VAT registrations and de-registrations 2001–2002 – Hertfordshire



Source: NOMIS, VAT registrations/de-registrations by industry, 2002.
*Does not include architectural and engineering activities

Figure 4.4

Forecast employment in construction* 2004–2013



Source: Experian Business Strategies Forecasting Model, 2003.
*Model does not include architectural and engineering services sub-sector in construction.
Note: Figures include the self-employed

Figure 4.5**Forecasted employment change by occupation 2004–2010 – construction (Hertfordshire)**

Occupation* (model categories)	% change in employment 2004-2010	Estimated jobs in Hertfordshire
Managers	10%	1,005
Professionals	-3%	-311
Assistant professionals	-12%	-569
Admin and secretarial	20%	1,808
Skilled trades	<-1%	-208
Operatives	-5%	-272

Source: Experian Business Strategies Forecasting Model, 2003.

*Sales occupations excluded due to the low level of employment in the occupation in Hertfordshire.

Note: Figures include the self-employed

Figure 4.6**Inflow and outflow 2002/3 – construction**

Inflow	%
Full-time education	2%
Changed sector	81%
Unemployment	9%
Other out of work (including family commitments etc.)	8%
Outflow	%
Retirement	5%
Changed sector	63%
Unemployment	18%
Other out of work (including sickness, maternity etc.)	13%

Source: ONS Labour Force Survey, 2003. Inferred data

Note: Figures include self-employed

Figure 4.7**FE construction provision – programme area**

Sub-Programme area	Enrolments
Construction crafts	509
Construction technology	139
Other construction related	903
All construction related	1,551

Source: LSC – Hertfordshire. Individualised Learner Records

source of new labour for the construction sector in the next few years. The LSC cannot fund learning provision for migrants from outside the European Union until they have been resident in the UK for three years. However, it is likely that there will be a significant demand for English as a second language (ESOL) and IT user skills provision, the costs of which will have to be met by employers or individual learners.

Newly qualified staff

In 2003, around 400 workers joined the construction sector from full-time education. Across the four colleges in Hertfordshire around 1,551 individual learners signed up for construction-related courses in 2002/03. However, it should be noted that some courses last 2 or 3 years and that not all people gaining relevant qualifications will enter employment in the sector.

The broad types of construction related courses available from Further Education providers in Hertfordshire are outlined in Figure 4.7.

Anecdotal evidence from Hertfordshire's colleges suggests that many construction courses are currently oversubscribed and they are finding it difficult to expand provision due to a shortage of teaching staff and site capacity.

Around 110 people completed or left Work Based Learning (WBL) programmes in 2003-2004. The majority were enrolled on Foundation Apprenticeships (65%) and around a quarter were undertaking Advanced Apprenticeships. Evidence from ConstructionSkills¹³ suggests that there has been an increase in the quantity of applicants for apprenticeship positions in the last few years. However, the sector currently has a lack of quality employer placements. With the additional demand for apprenticeship placements that could be created as a result of the 'Young Apprenticeship' scheme there will be a need to improve the level of employer involvement and encourage them to play a more active part in meeting the demand.

However, the level of NVQ achievement on Apprenticeship programmes is relatively poor and improvements need to be made if this is to become a significant route for new entrants to the workforce. In order for more employers to become engaged in Apprenticeship schemes they must see a clear link between the programmes and the supply of the workers they need. Whilst Apprenticeships continue to experience high levels of retention and achievement difficulties it will be difficult for the LSC and providers to demonstrate this link.

Recent announcements¹⁴ on the development of Apprenticeships could increase the importance of this route into the sector and include proposals to:

- Introduce 'Young Apprenticeships' to give more young people 'tasters' of vocational work and learning
- Extend the programme to offer more places to those aged over 25
- Improve the portability of programmes between employers.

In comparison the CITB ConstructionSkills 'Managing Agency'¹⁵ has a particularly high retention rate for WBL within the sector (85%). In part this success is attributed to the basic skills assessment conducted prior to acceptance onto the course.

¹³ CITB E-Bulletin: CITB ConstructionSkills encouraged by Government's plans to boost Apprenticeships.

¹⁴ DfES Press Release 10 May 2004. 'New Apprenticeships will widen opportunity and boost business – Clarke'.

¹⁵ The Managing Agency encourages and processes applications for apprenticeships and places young people with companies that can provide appropriate work experience. College fees for the off-the-job training to NVQ/SVQ Levels 2 and 3 are met by the CITB, who also pay grants to participating firms.

Training levels in the current workforce

The proportion of the sector's workforce reporting that they had undertaken job-related training in the last three months is below the level for all industries (20% or 12,600 people compared with 27%).

As with the workforce as a whole, more highly skilled construction workers are significantly more likely to have undertaken work-related training. However, Figure 4.8 shows that the level of job-related training undertaken at all skill levels is lower than that found in all industries.

Levels of job-related training amongst the sector's self-employed are particularly low. Perhaps more surprisingly, just 14% (around 400) high skilled self-employed workers report training in the three months prior to the survey. This highlights the difficulties of engaging in learning for self-employed workers and small and medium sized enterprises (SMEs) where time not working represents lost income in a very direct sense.

Around half of construction employers in Hertfordshire questioned as part of the 2003 National Employer Skill Survey (NESS) had funded or arranged training for their employees in the past 12 months, lower than employers in all industries (50% compared with 57%).

The proportion of employers who had arranged training intended to lead to formal qualifications was higher for construction (51% compared with 44% in all industries). This could indicate that the initiatives led by ConstructionSkills to accredit the existing workforce are having some effect (see Section 5).

Employers in the architectural and engineering activities sub-sector differ from construction employers as a whole, with a higher proportion arranging training (54%) but a lower proportion arranging training leading to a qualification (47%).

The majority of training that employers had funded or arranged

for staff was job specific (81%), for health and safety (76%) reasons or training in new technology (54%).

The most commonly reported barriers to developing and maintaining a skilled workforce are lack of time for training (reported by 45% of construction employers), lack of funding (46%) and lack of cover for training (45%). This is in line with the results for all industries.

Engaging SMEs in learning

Given the predominance of small and micro-businesses in the construction sector, encouraging employers to train their staff is a key challenge. Encouraging SMEs to engage in workforce development is one of the priorities of Hertfordshire Business Link.

Business Link data suggest that in 2003/4, some 448 visits had been made to construction establishments by business advisors, the majority of which were to businesses with between 10 and 49 employees (56%).

However, relatively few construction employers have achieved or committed themselves to Investors in People (IiP). IiP is a national quality standard that sets out a level of good practice for the training and development of people to improve business performance. Data supplied by Business Link reveals that in 2003/4 only 4 construction establishments in Hertfordshire were IiP recognised and a further 23 were working towards the standard. CITB ConstructionSkills report that there are currently 19 IiP recognised construction employers in Hertfordshire.

Interestingly, whilst one of the criticisms of the IiP programme in the past has been that it is more tailored to large organisations, 7 of the 23 construction employers currently working towards the standard employ fewer than 10 people (and a further 14 employ fewer than 50). It will be important for any future evaluations of the scheme to investigate why some SMEs feel that the standard is appropriate to them and not others.

Figure 4.8

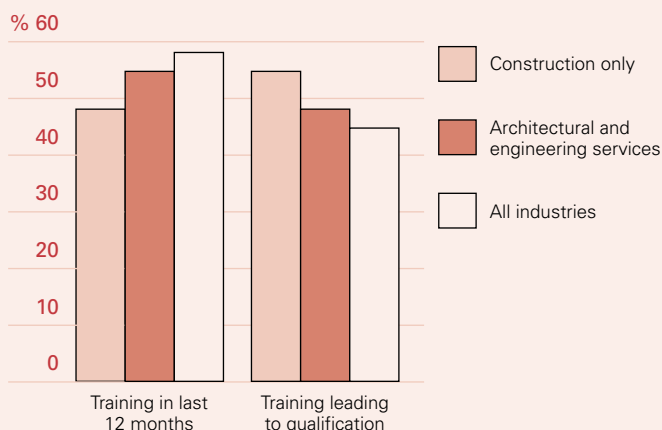
Those undertaking job-related training in the past 13 weeks – Hertfordshire



Source: ONS Labour Force Survey, 2003. Inferred data
Note: Figures include the self-employed

Figure 4.9

Establishment has funded job-related training in past 12 months – Hertfordshire



Source: LSC National Employer Skills Survey, 2003.
Note: Figures do not include the self-employed or businesses with only one employee

This section looks at the learning and skills representative bodies active in the construction sector, their activities and their plans for the development of the sector. It also sets out the key issues and skills concerns for the sector that they have identified and the efforts they are making to try to address these issues.

Key messages

- Constructing Excellence (Rethinking Construction) (1998), sets an agenda for change in the industry's working methods. This has led to several programmes including the Construction Best Practice Programme and Movement for Innovation.
- Both the craft and professional sides of the industry are represented by ConstructionSkills, the Sector Skills Council for the industry created in 2003.
- The building services engineering sector is represented by SummitSkills, the Sector Skills Council for the sector created in 2003.
- The ConstructionSkills Action for Skills report identifies three main areas for development, the image of the industry, qualification levels and business performance.
- Construction is one of the key sectors in the East of England Adult Skills Pilot.
- Whilst none of the specific projects designed for the sector have been in Hertfordshire, local stakeholders should monitor closely the Pilot's attempts to engage construction SMEs in learning.

Changing working practices

For much of the 1990s, there was great debate in the construction industry about its performance in terms of customer care and quality, and on how that affected productivity. In 1998, a government sponsored task force commissioned a report to formulate a structure whereby these discussions could be addressed. Constructing Excellence, (also known as the 'Egan Report'), sets an agenda for change in the industry's working methods, based on modern supply chain management principles.

Crucially, the report also advocated a restructuring of the industry around the processes needed to deliver high quality services, rather than around definitions of craft trades that were becoming obsolete. This is the basis for a slight shift in occupational terms. While skilled trades remain the key area of demand for future skills, there is a greater emphasis on more generic attributes, such as communication and team working skills.

Several programmes have emerged from Constructing Excellence including the Construction Best Practice Programme, which focuses on the transformation of management and business practices, and Movement for Innovation, which is based around establishing key performance indicators relating to project management and productivity.

These programmes emphasise the increasing demand for managers and for people with project management skills, who are better equipped to drive the industry forward. There is also a forecast increase in professional staff, which, although they remain a small minority in the industry, will help to improve the general skills profile of the workforce.

Workforce development – national

In September 2003, the Secretary of State for Education and Skills, Charles Clarke, confirmed the licence for a new Sector Skills Council (SSC) for the construction industry. Known as ConstructionSkills, the new SSC is a partnership between the Construction Industry Training Boards of Great Britain and Northern Ireland and the Construction Industry Council (CIC). The three organisations will together represent both the craft and professional sides of the construction sector and, in line with other SSCs, ConstructionSkills will be responsible for representing employers training needs and tackling skills and productivity issues in the sector.

ConstructionSkills' aims and priorities for action are set out in Figure 5.1.

In gaining Sector Skills Council status the industry can build on the expertise of the CITB who have led the sector on a broad range of workforce development issues for many years. This National Training Organisation (NTO) was primarily responsible for occupational standards and qualifications as well as certification and registration, recruitment, education and careers policy, training support and services and strategic intelligence. Financing its activities through a levy on member firms, the funds generated were deployed to train people within the industry.

Figure 5.1

Aims and priorities for action identified by ConstructionSkills

Aims

ConstructionSkills aims to represent the whole of the UK and all industry sectors in:

- Adopting a whole industry approach through a skills remit from craft through to professional interests
- Identifying ways of sharing the responsibility and cost of training more evenly across the supply chain
- Engaging with funding bodies and providers of training provision to influence and improve learning supply and ensure that provision meets the needs of employers across all construction sectors
- Challenging the status quo within all levels of Government, funding agencies and the education and training sector.

Priorities for action

- Reducing skills gaps and shortages
- Improving productivity and business performance
- Increasing opportunities to boost the skills and productivity of everyone in the sectors workforce, including further action on equal opportunities
- Improving learning supply, including apprenticeships, higher education and national occupational standards.

The training levy remains a source of strength for the construction sector but only applies to firms in part of the sector rather than across the industry as a whole. In recent years the industry has been warned of complacency in relying too heavily on the levy to solve its workforce and skills development problems. Therefore the significance of attaining SSC status cannot be understated.

In March 2004, the implementation of a joint planning agreement between ConstructionSkills and the Learning & Skills Council was announced. The agreement is an outline of broad strategic actions shared by both organisations that aims to improve the effectiveness of some £400 million worth of public and employer funding in meeting the skill requirements of the industry. It is the result of extensive consultation with construction industry employers, training providers and other key stakeholders. The agreement focuses on action, sustainable over the long term to improve training provision from schools, colleges, private providers, site-based centres and employer engagement in training for the sector.

The sector is also served by SummitSkills, the SSC for the building services engineering sector. The SSC was licensed in December 2003 and represents the electrotechnical, heating, ventilating, air conditioning, refrigeration and plumbing industries.

SummitSkills was developed by employers active in the sector, their trade associations and unions and the former NTOs, including the British Plumbing Employers' Council (BPEC), National Electrotechnical Training (NET) and the Engineering Services Training Trust Limited (ESTTL). SummitSkills will be responsible for guiding entrants to employment to ensure that the sector has a sufficient level of high quality recruits.

Workforce development – regional

In January 2004 ConstructionSkills released the Action for Skills reports, highlighting the training priorities for the Construction industry in each region of the UK between 2003-2007. The report outlines how ConstructionSkills will be working with

partners to help address the demand for skills and work toward improving the performance, competitiveness and profitability of the industry. The reports are intended for circulation to RDAs, LSCs and other agencies involved in regional funding of training provision.

The current Regional Economic Strategy (RES) for the East of England identifies two strategic regional priorities for learning: businesses accessing learning and skills for prosperity, and people accessing learning and skills for a high quality life. With construction identified as a key employment sector, the RES aims to target mainstream learning and skills programmes more effectively to maximise their impact.

Likewise, the East of England Framework for Regional Employment and Skills Action (FRESA) places skills for employability, workforce development and in-work progression, along with increasing participation in higher education among its top priorities for immediate action, co-ordination or funding.

In response to the Comprehensive Spending Review 2002, Regional Development Agencies, local LSCs and other partners were invited by the Government to work together towards developing an Adult Skills Pilot. EEDA in conjunction with the Region's six local LSCs and Jobcentre Plus, was successful in its bid to lead one of four national pilots being run across the country; the Adult Skills Pilot.

Construction is one of the five priority sectors of the East of England Adult Skills Pilot. The Pilot aims to increase employer demand for skills and the responsiveness of provision to business needs, by focusing on new and innovative approaches to skill development. This will then lead to more adults being equipped with the skills, competencies, understanding and knowledge employers require. The FRESA sees the Pilot as a delivery opportunity for its workforce development and in-work progression priority.

Five of the initial twelve projects to be approved under the pilot are construction based. However, none of the projects funded so far have been in Hertfordshire.

Figure 5.2

National priorities for workforce development

Improving image and recruitment

- Improving the perception of the industry
- Better career guidance to young people to overcome stereotypes
- Greater flexibility and accessibility in training programmes
- More employer involvement in the support and delivery of training programmes
- Improved retention and qualification rates (increased levels of Apprenticeships)
- Improved recruitment and retention of graduates (including more higher education places in construction).

Qualifying the workforce

- Assessment and certification of existing skills
- Up-skilling in current workforce (higher level skills and improved motivation and retention)
- Change employer/employee perceptions of skill needs
- Accessibility to training, including work experience
- Improved levels of basic skills.

Improving business performance

- Promoting continuous improvement, the Investors in People standard and supply team integration and collaborative working
- Increased investment in training, particularly in small businesses
- Improved supervisory, management and leadership skills
- Meeting the skill requirement of new technology and working practices.

This section sets out the workforce development priorities for construction in Hertfordshire. It explores what is currently being done to address these priorities and what opportunities there may be for further action.

At the start of this paper, three workforce development priorities for the construction sector in Hertfordshire were proposed.

1. Ensuring an adequate supply of skilled new entrants to the workforce.

Taking into account forecast employment growth and the pattern of workers entering the sector from full-time education, around 900 skilled new entrants to the workforce are required each year to 2008. After that period the demand may fall to 4–500 a year. Neither estimate takes into account the significant number of workers coming into the sector from other sectors each year (around 10,000). However, it can be assumed that in order to gain employment in the sector these workers have most of the skills required in the jobs they move into. This influx does however have significant consequences for ConstructionSkills programmes to accredit the existing workforce.

The evidence presented in the main sections of this paper suggests that there remains an unmet demand for skilled new entrants into the workforce, although ConstructionSkills and LSC commissioned surveys offer contradictory evidence on the extent of that demand in Hertfordshire and the East of England.

Section 2 suggested that encouraging more women to consider careers in construction could have a dramatic impact on the potential workforce for the sector (around 30,500 or 82% of current sector employees are male).

Actions identified in the LSC for West London's study of women in construction include:

- Identify local champions to influence the media and encourage the portrayal of women in the industry
- Introduce an awards scheme (allied to liP) for most innovative practice involving women in construction
- Look at possibilities of extending flexible working patterns
- Encourage companies to incorporate childcare centres near major sites
- Work with employers to implement a system of peer group mentors.

The LSC and sector stakeholders in Hertfordshire need to consider whether these recommendations would be appropriate for the county.

We estimate that around 4,100 (6–7%) of the construction workforce in Hertfordshire are from ethnic minority backgrounds. Initiatives to encourage more people from ethnic minority backgrounds to consider careers in construction would also be beneficial, although numerically women represent a much larger potential workforce.

Other potential sources of new entrants to the labour market include the economically inactive (particularly non-JSA claimants) and ex-offenders. Jobcentre Plus and the Prison Service are currently exploring how to improve the routes into sustainable employment for these groups. ConstructionSkills have also piloted a number of projects in this area in the past that need to be reviewed in order to identify best practice and key learning points.

Given that only 11% (7,000) of the current construction workforce are aged 16–24, the LSC and sector stakeholders could also explore the opportunities presented by the 14–19 agenda, to offer more young people work experience, vocational courses and careers events and build on the work of CITB ConstructionSkills (e.g. summer school programmes).

However, it should be noted that ConstructionSkills report both nationally and regionally that there is insufficient capacity to deliver learning provision for those who are already considering careers in the sector and there is a need to explore ways to expand provision. (Furthermore, the increase in demand for Apprenticeships within the sector will have pressing implications on supply. It is essential that the LSC and its partners encourage more construction employers to offer apprenticeship placements to meet growing demand).

In the medium-term there may be opportunities for expanding provision through Centres of Vocational Excellence (CoVEs) and Foundation Degree programmes for the sector. However, the next round of applications for funding for both schemes will be for development in 2006 onwards.

In the short term, it may be more appropriate to further develop links with existing CoVEs in neighbouring LSC areas, particularly given the travel to work patterns of Hertfordshire construction workers (Section 3) and the concentration of employment in the south of the county (Section 2). Currently, there is a CoVE for construction at North West London College, which also offers Construction Foundation Degrees. In addition, Peterborough and Cambridge Regional Colleges and Isle College operate a joint CoVE for the construction industry and Bedford College has a CoVE for plumbing and is a partner with Barnfield College in a CoVE for the management and development for new technologies for house building.

The recently proposed revisions to Work Based Learning programmes also represent a significant opportunity for developing new provision for the sector. The responsibilities for developing new programmes will be shared between the LSC and Sector Skills Councils such as ConstructionSkills. However,

it should be noted that there remains a significant task in encouraging employers to offer placements for existing Apprenticeship programmes.

However, the LSC for Hertfordshire needs to recognise that employer support for expansion and extension of the schemes will be difficult to achieve without improvement in retention and achievement rates on current schemes.

2. Encouraging SMEs to engage in workforce development.

Around 94% or 6,000 business establishments in the sector are micro-businesses. Engaging SMEs in workforce development has been a long term problem in many industries, not least in construction. This suggests that more radical approaches may be necessary. Both demand and supply side initiatives are essential.

On the demand side, it should be remembered that the public sector is a major customer for the construction industry. Requiring public sector and Private Finance Initiative construction projects to ensure suppliers have a suitably skilled and qualified workforce could significantly raise the demand for learning.

One possibility would be to require that all suppliers to public funded projects are committed to the liP process. Another would be to require all skilled trades workers on public projects to have the appropriate qualifications or accreditation (e.g. ConstructionSkills skillcards).

Employers also should be encouraged to use the ConstructionSkills On-site Assessment and Training scheme (OSAT), whereby employees gain NVQs through on-site assessment of their day-to-day work. This will ensure a baseline standard of qualifications across the workforce.

In addition, the local authority could develop (or further develop) a list of preferred suppliers for others to use that meet skills and other professional or legal requirements.

On the supply side, more flexible, bite-size provision needs to be developed. It might also be appropriate to pilot 'mobile provision' that travels to or near major construction sites and offers bite-size provision around site working hours.

Currently around 4,100 or 64% of managers and senior officials in the sector are not qualified to Level 4. Furthermore around 29% (19,200) of the total construction workforce in Hertfordshire are not qualified to Level 2. It will be essential to engage more construction managers in training.

Not only are managerial skill gaps a significant issue for the sector, managers are often the 'gatekeepers' to training for the whole workforce. Unless managers are switched on to learning,

engaging the rest of the workforce will be difficult. It may therefore be worthwhile to finance more significant incentives to this occupational group (e.g. free provision and/or compensation for time lost) and investigate their needs in more detail (e.g. likely demand for management in a construction environment courses).

Managers also need to be encouraged to plan for succession both for themselves (27% or 1,900 of them are aged 55 or over) and for the workforce as a whole.

The widespread perception of an ageing workforce for skilled trade occupations on the face of it is unjustified. However, if the real problem is a loss of the most experienced workers within skilled trade occupations; development routes for existing workers to gain experience and higher level craft skills need to be clarified and strengthened. In an industry dominated by small businesses, the opportunities for development may be limited within businesses. The LSC and partners should investigate the opportunities for mentoring and development schemes across the industry.

3. Planning for sustainable learning provision.

The cyclical nature of employment change in the construction industry poses some unique problems for learning provision.

It could be argued that under current funding regimes for Further Education and Work Based Learning there is a significant time lag. As the sector begins to grow there will be an undersupply of skilled new entrants and when (or if) it begins to contract there will be an oversupply. This can be further exacerbated by the time taken for market signals to reach young people deciding on career and training options. This raises significant issues for colleges relying primarily on the number of applicants when deciding to expand provision.

In addition, it could be the case that if the industry were to contract in the future it might lead to an over-reaction on the supply side. Many FE and WBL courses are based on minimum numbers of enrolments. If a declining demand is spread across many courses, it seems likely that a large proportion of them may fail to have enough enrolments. This is inefficient and costly, many construction courses require specialist plant and teaching equipment and it takes time to develop programmes and train the trainers.

The LSC and learning providers in Hertfordshire need to take a strategic view of how to maintain essential provision for the county as a whole and how to improve the ability of the supply side to respond more quickly to changes in demand. This could involve the identification of key courses and/or minimum levels of provision, alongside agreements to 'share the risk' by financially underpinning some courses during periods of downturn.

Annex 1. Sector Description

19

451 Site preparation

Includes demolition and wrecking of buildings; earth moving, test drilling and boring.

452 Building of complete constructions or parts thereof; civil engineering

Includes general construction of building and civil engineering works; construction of commercial buildings, domestic buildings and civil engineering constructions; erection of roof covering and frames; construction of highways, roads, airfields and sports facilities; construction of water projects and other construction work involving special trades.

453 Building installation

Includes installation of electrical wiring and fittings; insulation work activities; plumbing and other building installation.

454 Building completion

Includes plastering; joinery installation; floor or wall covering; painting and glazing and other building completion.

455 Renting of construction or demolition equipment with operator

742 Architectural and engineering activities and related technical consultancy

Includes architectural activities, urban planning and landscape activities, quantity surveying activities, engineering consultative and design activities, engineering design activities for industrial process and production, engineering related scientific and technical consulting activities and other engineering activities.

Occupational job roles, SOC 2000 (12 key specialised occupations)

5319 Construction trades NEC

Workers in this unit group undertake a variety of tasks in the construction, alteration, maintenance and repair of buildings, steeples, industrial chimneys and other tall structures.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through an Apprenticeship approved by the Construction Industry Training Board leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- selects, measures and cuts steel bars, rods and wire to required lengths, positions and fixes reinforcements into position and tensions as required using hydraulic jacks;
- lays bricks, tiles and building blocks to construct, repair and decorate buildings;
- pours and levels concrete, prepares surfaces for painting and plastering, and mixes and applies plaster and paint;
- installs plumbing fixtures, woodwork structures and fittings, and sets glass in frames.

5315 Carpenters and joiners

Carpenters and joiners construct, erect, install and repair wooden structures and fittings used in internal and external frameworks and cut, shape, fit and assemble wood to make templates, jigs, scale models and scenic equipment for theatres.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through a Modern Apprenticeship or National Traineeship approved by the Construction Industry Training Board leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- examines drawings and specifications to determine job requirements;
- selects and measures appropriate wood and cuts, shapes and drills to specification using saws, planes, chisels and other power or hand tools;
- aligns and fixes prepared wood pieces by screwing, nailing, gluing and dowelling to form frames, shop fronts, counter units, decking, theatrical sets, furniture, small wooden craft, scale models and wooden templates.

5314 Plumbers, heating and ventilating engineers

Workers in this unit group assemble, install, maintain and repair plumbing fixtures, heating and ventilating systems and pipes and pipeline systems in commercial, residential and industrial establishments.

There are no formal academic requirements although GCSEs/S grades are advantageous. NVQs/SVQs in Mechanical Engineering Services are available at Levels 2/3. Modern Apprenticeships are available for plumbing and lead to an NVQ/SVQ at Level 3.

Tasks

- examines drawings/specifications to determine layout of system;
- measures and cuts required lengths of metals or plastic using hand or machine tools;
- installs fittings such as storage tanks, cookers, baths, toilets etc;
- tests completed installation for leaks and makes any necessary adjustments.

5323 Painters and decorators

Workers in this unit group apply paint, varnish, wallpaper and other protective and decorative materials to interior and exterior walls and surfaces, make signs and showcards, paint designs and lettering on wood, glass, metal, plastics and other materials and stain, wax and french polish wood surfaces by hand.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through a Modern Apprenticeship or National Traineeship approved by the Construction Industry Training Board leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- erects working platform or scaffolding up to five metres in height;
- prepares surfaces by cleaning, sanding and filling cracks and holes with appropriate filler;
- applies primer, undercoat and finishing coat(s);
- using brush, roller, or spray equipment;
- stains, waxes and French polishes wood surfaces.

1122 Managers in construction

Managers in construction plan, organise, direct, co-ordinate the construction and maintenance of civil and structural engineering works including houses, flats, factories, roads and runways, bridges, tunnels and railway works, harbour, dock and marine works and water supply, drainage and sewage works.

There are no pre-set entry standards. Entry is possible with either a degree or equivalent qualification, relevant experience or without academic qualifications. On-the-job training is provided and professional qualifications are available.

Tasks

- receives invitations to tender, arranges for estimates and liaises with client, architect and engineers to prepare contract documents;
- plans site layout and access routes, advises on technical problems and staffing, oversees implementation of site security and safety procedures.

5312 Bricklayers, masons

Bricklayers and masons erect and repair structures of stone, brick and similar materials and cut, shape and polish granite, marble, slate and other stone for building, ornamental and other purposes.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through a Modern Apprenticeship or National Traineeship approved by the Construction Industry Training Board leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- examines drawings, photographs and specifications to determine job requirements;
- marks and cuts stone using hammers, mallet and hand or pneumatic chisels;
- spreads mortar on foundations and bricks, and places, levels and aligns bricks in mortar bed;
- uses hand and power tools to shape, trim, carve, cut letters in and polish stone;
- levels, aligns and embeds stone in mortar and faces brick, concrete or steel frame with stone to make and repair structures.

8149 Construction operatives NEC

Workers in this unit group operate insulating equipment, fix plasterboard/dry linings to ceilings and walls, help construct, maintain, repair and demolish buildings, clean and resurface eroded stonework, and lay, join and examine pipe sections for piping systems.

There are no formal academic entry requirements. Training is typically provided on-the-job. NVQs/SVQs in General Construction Operations are available at Levels 1, 2 and 3.

Tasks

- fills machine with insulating mixture, drills access hole and fills cavities/coats surfaces to prevent loss of heat and provide fire protection;
- selects plasterboard or dry lining panels, cuts and fixes them to ceilings and walls;
- cuts, shapes and fits wood, lays bricks and tiles, cleans exterior surfaces and resurfaces eroded stone or brickwork, and performs other tasks in construction.

2121 Civil engineers

Civil engineers undertake research and design, direct construction and manage the operation and maintenance of civil and mining engineering structures.

They usually possess an accredited 3/4 year degree in civil engineering or engineering science or an accredited HND/Certificate. 'Chartered Engineer' status is achieved through the completion of postgraduate training and membership of a chartered engineering institution. 'Incorporated Engineer' status is obtained upon completion of further training at work and associate membership of a chartered engineering institution.

Tasks

- undertakes research, advises on civil engineering matters;
- determines /specifies construction methods, materials, quality/safety standards, ensures compliance with design specifications;
- designs structures
- organises/plans projects, arranges work schedules, inspection work, plans maintenance control;
- establishes control systems.

5321 Plasterers

Plasterers apply plaster and cement mixtures to walls and ceilings, fix fibrous sheets and cast and fix ornamental plasterwork to the interior or exterior of buildings.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through a Modern Apprenticeship or National Traineeship approved by the Construction Industry Training Board leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- mixes, or directs the mixing of, plaster to desired consistency;
- applies and smooths 1 or more coats of plaster and produces a finished surface, using hand tools or mechanical spray;
- pours liquid plaster into mould to cast ornamental plaster work;
- measures, cuts, installs, secures plaster board and/or ornamental plasterwork to walls/ ceilings;
- covers and seals joints between boards and finishes surface;
- checks surface level using line, spirit level and straight edge.

5322 Floorers and wall tilers

Workers in this unit group lay composition mixtures (other than mastic asphalt) to form flooring, plan, fit and secure carpet, underlay and linoleum and cover and decorate walls and floors with terrazzo and granolithic mixtures, tiles and mosaic panels.

There are no formal academic entry requirements, though GCSEs/S grades are advantageous. Entry is typically through a Modern Apprenticeship or National Traineeship approved by the CITB leading to an NVQ/SVQ in General Construction at Level 3.

Tasks

- examines drawings/specifications to determine job requirements;
- cleans floor surface, fixes wooden laying guides and mixes, pours, levels composition mixtures to form flooring;
- examines premises to plan suitable layout and cuts, lays and secures underlay, carpet and linoleum;
- finishes covering by rolling, smoothing, grouting or polishing;
- mixes cement screed or other adhesive, cuts/positions floor and wall tiles, checks alignment of tiling with spirit level.

8141 Scaffolders, staggers, riggers

Workers in this unit group erect and dismantle scaffolding and working platforms, set up lifting equipment and ships' rigging, maintain and repair steeples, industrial chimneys and other tall structures and install, maintain and repair ropes, wires and cables.

There are no formal academic entry requirements. Training is initially received on-the-job. Skilled workers must obtain Construction Industry Training Board (CITB) recognised scaffolders record scheme cards through the completion of approved courses and further work experience. NVQs/SVQs in Scaffolding are available at Levels 2 and 3.

Tasks

- examines drawings and specifications to determine job requirements;
- examines scaffold tubing and couplings for defects and selects, fits and bolts scaffold tubes until scaffolding reaches required height;
- lays and secures wooden planking to form working platforms and fixes guard rails, ladders, cradles and awnings as required;

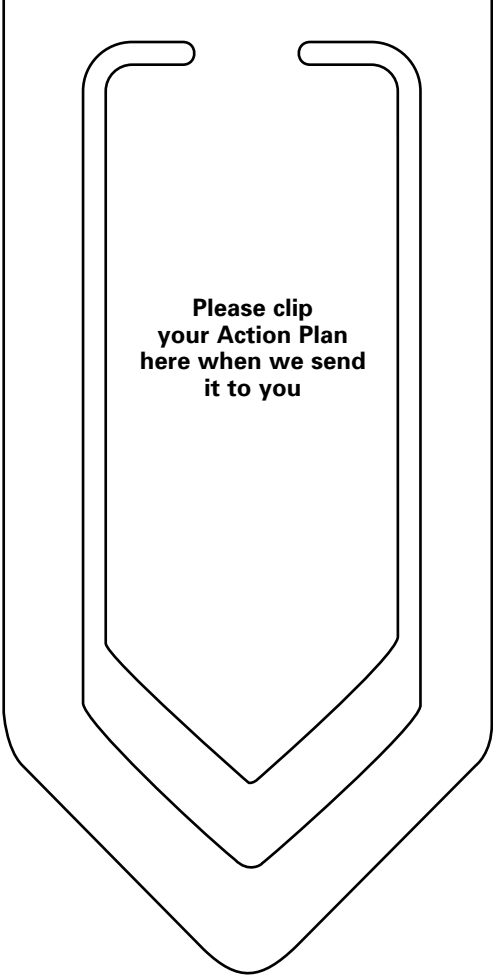
3114 Building and civil engineer technicians

Building and civil engineering technicians perform a variety of miscellaneous technical support functions to assist civil and building engineers.

Entrants usually possess a relevant BTEC/SQA award or an Advanced GNVQ/GSVQ Level III. The status of engineering technician is obtained after a period of further training at work and upon gaining the membership of a professional engineering institution.

Tasks

- sets up apparatus and equipment and undertakes field and laboratory tests of soil and work materials;
- performs calculations and collects, records and interprets data;
- sets out construction site, supervises excavations and marks out position of building work to be undertaken;
- inspects construction materials and supervises work of contractors to ensure compliance with specifications and arranges remedial work as necessary.



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