

# Construction Employment and Training Forecast 2000 – 2004

*A CITB Research Document – October 1999*

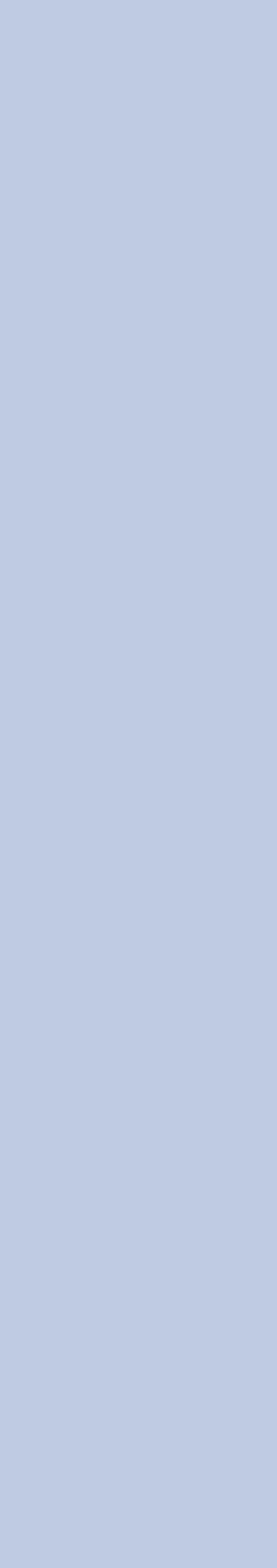


**CITB**

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# Foreword



**FOREWORD BY MALCOLM WICKS MP**  
Parliamentary Under Secretary of State for Lifelong Learning

I am delighted to provide the foreword to this report from the Construction Industry Training Board. Comprehensive and regular labour market information is the key component in ensuring that sectors have the qualified people they need both today and in the future.

The report shows that the construction industry, which employs 8% of the national workforce, will need people to be well trained in traditional skills, of course. But the industry also needs to address the skills needed to cope with the technological development and new ways of working. And it must move further towards a fully qualified workforce.

It is vital that those responsible for influencing the industry's training have the best information on expected recruitment and skills needs; and to know in which parts of the country those needs will be most felt. Labour Market Assessments are an integral part of the Skills, Foresight and Workforce Development Plans now being drawn up by the network of National Training Organisations. And they contribute directly to the forthcoming Skills Dialogues between the network and my Department.

The work being done by the CITB in producing this information on a year-by-year basis has long been a watchword in the industry. It is valued by the Training and Enterprise Councils, Local Enterprise Companies and other agencies directly concerned with economic training and development at the local level. It also encompasses the national dimension within which these bodies must work. The national perspective will be an important part of the sector partnership with the Learning and Skills Council from 2001 onwards.

This report will prove an invaluable tool in the construction industry's overall planning process. I commend it to all those concerned with the quality and adequacy of the industry's future requirements for people and skills.

A handwritten signature in blue ink, appearing to read 'Malcolm Wicks'.

Malcolm Wicks MP

# Construction Employment and Training Forecast – Executive Summary

This document provides medium-term projections for labour demand in the construction industry and the future needs for recruitment and training in the industry. It is based on a model of the construction labour market which provides both regional and national forecasts by main occupation.

The forecast covers five years to 2004 and is based on an annual output growth rate of 2.5% which reflects the long-term trend in the industry. The prospects for the construction industry have improved in 1999. It is, therefore, not unreasonable to assume moderate but steady growth over the forecast period.

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## Key Points

- Total employment in the industry is expected to rise by 70,000 (or less than 1% per year) from 1.43 million in 1998 to 1.5 million in 2004.
- Around 73,000 new recruits will be required each year between 2000 and 2004 (making 367,000 over the five year period). Of these 73,000, some 65,000 will be required each year for replacement, the balance for the increase in total construction employment.
- This compares with a figure of 70,000 over the period 1999-2003 from the 1998 forecast document. For 1999, the projected yearly required intake of 70,000 would appear to have been largely fulfilled since no acute overall skill shortages have so far emerged, with difficulties in recruiting being confined to highly skilled staff.

- Manual workers in the Building Trades will continue to be the largest group, followed by those in Building Services, Civil Engineering and Specialist Building.
- The occupations with the biggest annual recruitment will be, in descending order: Carpenters/Joiners, Managers, Electricians, Bricklayers, Clerical Staff and Plumbers.
- Except for the Building Trades and Building Services, informal training remains the most common form of skill development for construction site occupations.
- For Building Trades, an increase in formal training of around 2,400 per year (or around 11% of the current figure compared with 30% forecast in the 1998 report) would be required if we aim to meet demand exclusively through formal training. However, it must be recognised that, even in the Building Trades, there are other routes into the industry. For example, CITB's new On-site Assessment and Training (OSAT) scheme was introduced to improve informal, on-site training.
- For Specialist Building and Civil Engineering there remains a large potential to increase (or formalise) skills in the workforce, either through training of new recruits or through certification of existing workers.
- Regional requirements for additional recruitment vary considerably, according to the scale of activity and workforce size and different rates of growth.
- Greatest additional demand is expected in the South West, South East and Eastern regions, with output growth above the national average. Increases in activity below the national average are expected in Wales, London, Yorkshire and the Humber.
- Employment growth is expected to follow the same pattern as output. Over the forecast period 2000-2004, employment is expected to increase by between 5% and 6% in the southern regions and between 2% and 4% in the other regions. In Scotland and Wales, the increase in employment will also be moderate.

# Part One: Skills Demand

## Introduction

**NATIONAL TRAINING ORGANISATION (NTO)**  
Since 1998, government has designated leading organisations to be the focus for training in each sector.

**TECs/LECs**  
Locally based employer-led bodies providing government funding to support training and enterprise across all sectors.

**REGIONAL DEVELOPMENT AGENCIES**  
The Regional Development Agencies (RDAs) for England were set up in 1998 to co-ordinate the economic and social development at the regional level.

**LEARNING AND SKILLS COUNCILS**  
Will be responsible for planning, funding and managing all post-16 education and training other than higher education.

As a **National Training Organisation**, CITB is responsible for co-ordinating construction training to meet its industry's needs.

To inform this process, CITB produces forecasts and analyses of skill demand in the industry on an annual basis. These should be of interest to the various organisations involved in construction training – principally **TECs/LECs, Regional Development Agencies (RDAs)**, future **Learning and Skills Councils**, colleges and private training providers and larger construction companies. From the job-seeker perspective, the forecasts can be useful to those involved in recruitment, particularly careers advisers, in giving guidance on future job prospects.

*CITB's Construction Employment and Training Forecast has become an essential tool in the planning of construction training.*

*CITB's Construction Employment and Training Forecast* has become an essential tool in the planning of construction training. Based on an econometric model developed, tested and reported on for more than five years, it provides an agreed basis on which to plan the delivery of skills in the industry.

The model incorporates both a national and a regional dimension that are fully consistent with each other. The regional dimension takes into account regional differences in both output, occupational structure and unemployment thus providing separate models for each region. However, by imposing national constraints on the regional results, the model is also fully consistent at the national level. In this way, it can allow for the considerable inter-regional mobility common to the construction industry.

In this new report, the forecast period has been changed to cover the years from 2000 to 2004. There has been a further decrease in the rate of unemployment, which is used to derive total labour supply, resulting in a slightly higher required intake compared to our last forecast despite no change in the expected growth rate of construction output. For the regional tables (located in Appendix A), boundaries for Scotland, Wales and the new **RDAs** have been used. This will ensure a greater relevance of the model results at the regional level.



## Methodology

The model is based on a **top-down approach**: total construction output, together with the price of capital (interest rate) and the price of labour (wage rate) are used to forecast total construction employment. The result is then shared among 22 occupations, see Table A1 in Appendix A.

For the occupational shares, a historical series has been estimated back to 1980 and projected forward to the year 2004. The results have then been shared out among the nine RDAs of England plus Scotland and Wales (henceforth referred to as the regions).

Labour demand is approximated by total employment plus 5% to take into account long run vacancies. Initial supply is given by total employment plus a percentage for the unemployed, using the **International Labour Office (ILO)** definition. Changes in supply are estimated using a stock/flow approach, the main outflow being attributed to retirements and estimated as a percentage of total supply. New entrants are the main inflow, also estimated as a percentage of total supply.

At the national level, the forecast of total demand is subtracted from the forecast of total supply to obtain the shortage/surplus by occupation over a five year period. At the regional level, separate submodels have been developed for each region using the same methodology as for the national model. On the supply side, regional differences in unemployment are taken into account. For both demand and supply, occupational shares reflect regional differences which can be considerable.

Training supply is derived from CITB's measures of formal training in annual surveys. This includes **Modern Apprenticeships, National Traineeships** and other formal long-duration training at craft and operative level leading to NVQ Level 2 or higher. Drop-out from training is estimated from CITB and Further Education Funding Council data.

**TOP-DOWN APPROACH**  
The analysis starts at the national level with total construction employment and output and is subsequently broken down by occupation and region.

**INTERNATIONAL LABOUR ORGANISATION (ILO)**  
The ILO definition of unemployment includes all actively looking for a job irrespective of their unemployment related benefit entitlement.

**MODERN APPRENTICESHIPS**  
Vocational training course to achieve NVQ/SVQ Level 3.

**NATIONAL TRAINEESHIPS**  
Vocational training course to achieve NVQ/SVQ Level 2.

## Forecast of Construction Employment

### CFR

Construction Forecasting and Research is a consultancy specialising in the economic analysis of the construction and related industries.

### BMP

The National Council of Building Material Producers represents UK producers of construction materials, components and fittings and is funded by the industry.

### BSL

Business Strategies Limited is a leading business and economic forecasting organisation, providing a range of forecasting services covering all aspects of economic and business activity.

### LABOUR PRODUCTIVITY

A statistical measure and is the result of dividing total construction output by total construction employment.

During 1998, construction activity moderated from a yearly growth rate of 5% in the first quarter of the year to zero growth in the fourth quarter, resulting in an average yearly growth rate of 1.6%. The prospects for the industry for 1999 onwards have, however, improved. Both **Construction Forecasting and Research (CFR)** and **Building Materials Producers (BMP)** are more optimistic for the short to the medium-term. BMP expects an average growth rate of just over 3% for 2000–2001. CFR expects an average yearly growth rate of just over 2% over the period 2000–2004.

In the current forecast an annual average growth rate of 2.5% over the period 2000–2004, based on the latest forecasts of **Business Strategies Ltd. (BSL)**, has been used to forecast total employment to the year 2004, keeping the actual BSL forecast of 2.4% for 1999. The results are given in Table 1 opposite. The figures in the table show a sharp increase in construction employment in 1998 (up by 44,000 or 3% from its 1997 level). However, over the period 1998–2004, construction employment is expected to increase by some 70,000 or by less than 1% per year. During the same period, total construction output in 1995 prices is projected to reach £65,000m with **labour productivity** growing at a faster rate in the first four years of the new millennium than during the previous five years.

The choice of an annual average growth rate, based on BSL's relatively buoyant forecast for the construction industry, is appropriate in the context of forecasting training requirements. This is firstly because of the need to take the long-term view and secondly because, after the rather lean years of the early nineties, construction activity may be expected to fare rather better over the current forecasting period. CFR's forecast of moderate but steady growth is consistent with this view.

By providing an agreed basis on which to act, it is hoped that the combined effort of the various partners can be harnessed to meet the needs of the industry and to guide individuals towards realistic career opportunities.

**Table 1**  
**Total Construction Output and Employment: Great Britain 1994 – 2004**

	Year	Total Output Growth Rate	Total Output (1)	Output Per Head (1)	Total Employment Direct and Indirect (2)
		%	£m 1995 prices	£'000 1995 prices	Thousands
<b>Actual</b>	1994	3.4	52692	38	1384
	1995	-0.1	52643	38	1375
	1996	2.3	53863	39	1370
	1997	3.0	55468	40	1384
	1998	1.6	56370	39	1428
<b>Forecast</b>	1999	2.4	57713	40	1433
	2000	2.5	59179	41	1444
	2001	2.5	60682	42	1455
	2002	2.5	62223	42	1468
	2003	2.5	63804	43	1485
	2004	2.5	65424	44	1502

Source:

Actual: Department of the Environment, Transport and the Regions (DETR)

Construction output forecast is based on BSL's forecast, March 1999

Construction employment forecast is from the CITB Employment Model, May 1999

(1) The volume of total construction output has been estimated in 1995 prices hence the figures in the table are higher than in the corresponding table in the *Construction Employment & Training Forecast 1999-2003*.

(2) The model currently uses the narrower definition of construction employment of DETR which is based on VAT returns. This is consistent with the measure of construction output. The estimate of construction employment from the **Labour Force Survey** is some 20% higher. However the trend is similar.

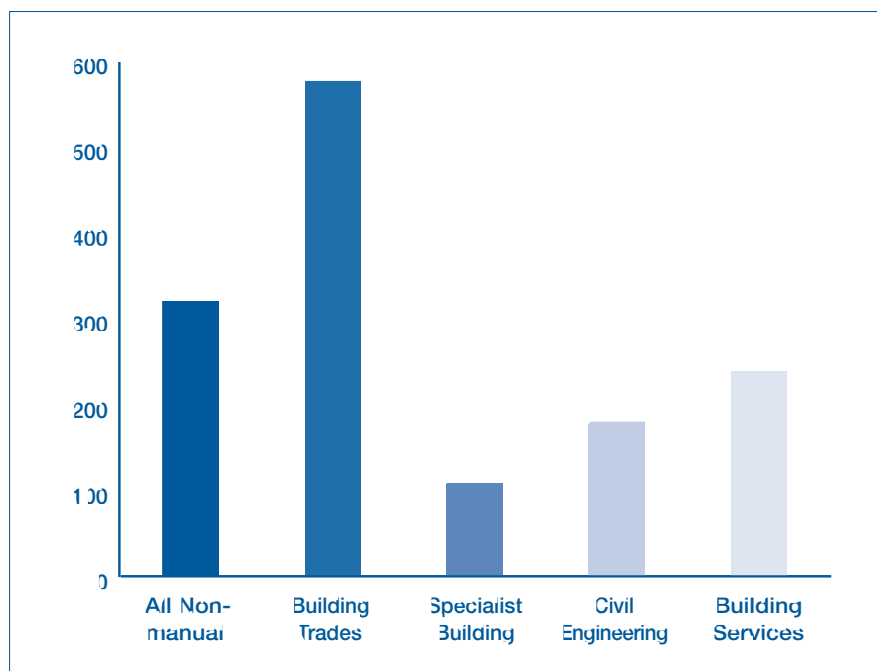
# Construction Employment by Occupation

**STRATEGIC FORUM OF CONSTRUCTION NTOs**  
The group of NTOs in the construction sector who, together with TOPIC, are committed to developing a coherent education and training framework for the whole sector.

**TOPIC**  
The Training Organisation for Professionals in Construction was established to promote and support the provision of high quality training for professionals.

The construction industry covers a number of subsectors, from Building to Civil Engineering, and a variety of skills and occupations. Diagram 1 gives the broad brush picture. For more detailed information, see Appendix B.

**Diagram 1**  
**Construction Employment by Main Categories**  
**in Thousands: 1998**

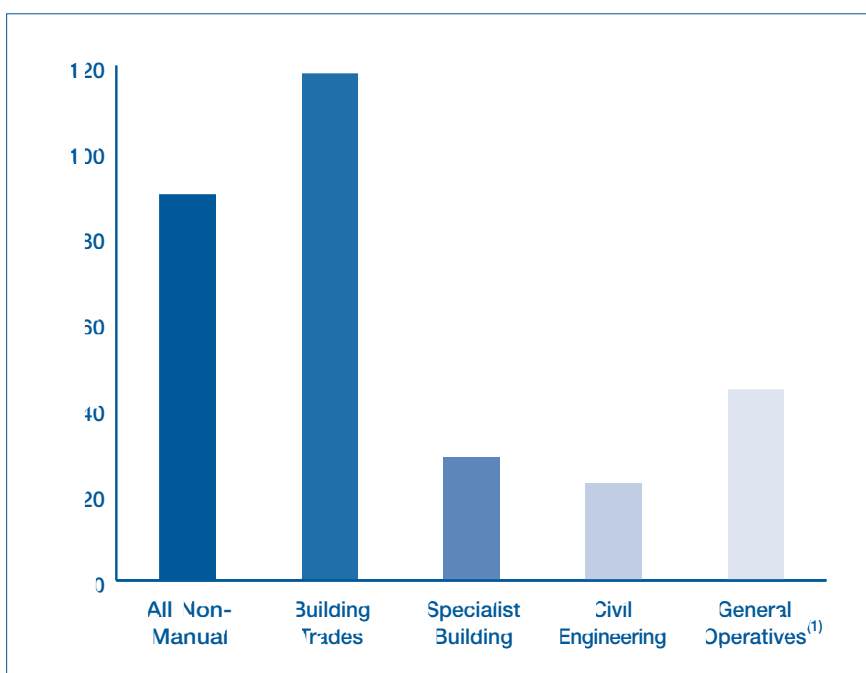


Sources:  
CITB Employment Model, May 1999  
Department of the Environment, Transport and the Regions  
Office of National Statistics 'Labour Force Survey, Winter 1999'  
**Strategic Forum of Construction NTOs** 'Survey of Employment by Occupation in the Construction Industry, Spring 1998'

Given DETR's estimate of total construction employment, we forecast an average annual requirement of approximately 73,000 over the period 2000–2004. Diagram 2 shows how this total requirement is shared out among the main occupational groups.

**Diagram 2**

**Cumulative Required Intake by Main Occupational Group  
in Thousands: 2000–2004**



Source:

Table A2b, Appendix B

(1) Includes Civil Engineering Operatives

Note: Building Services are not included in the above diagram.

For Building Trades, some 90% of the total required labour intake is covered by formal training – while for Specialist Building and Civil Engineering trades, the proportion is less than 20%.

## Forecast of Additional Labour Requirements, 2000 – 2004

The annual labour requirement for selected skills, as forecast by the CITB Employment Model, over the period 2000–2004 is illustrated in Diagrams 3a–3d. For all trades, the requirement is fairly stable over the forecast period. This is not surprising since a long-run average growth rate for construction output is used in running the model thus smoothing out increases in construction employment and therefore expected yearly required trained intake. For each year, the columns in Diagrams 3a–3d show the number of trained workers required, assuming that the requirement in the previous year has been met.

### Annual Additional Labour Requirement

Diagram 3a The Building Trades: 2000–2004

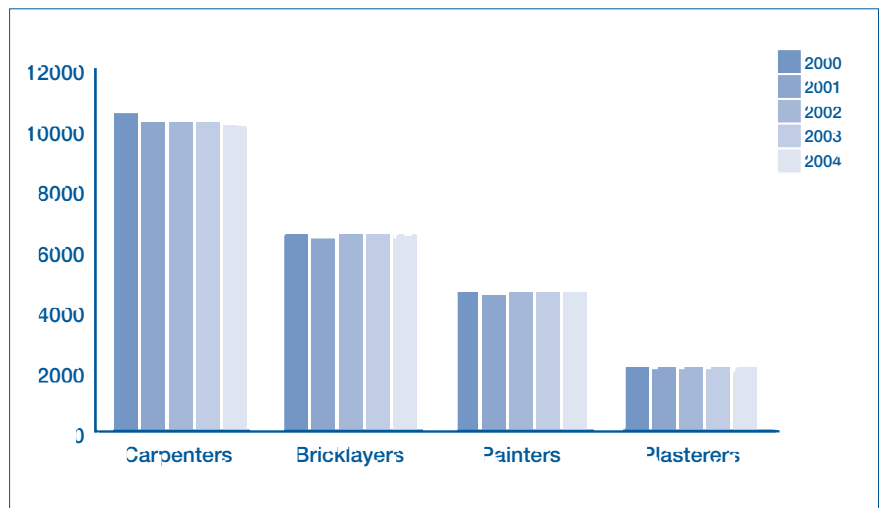
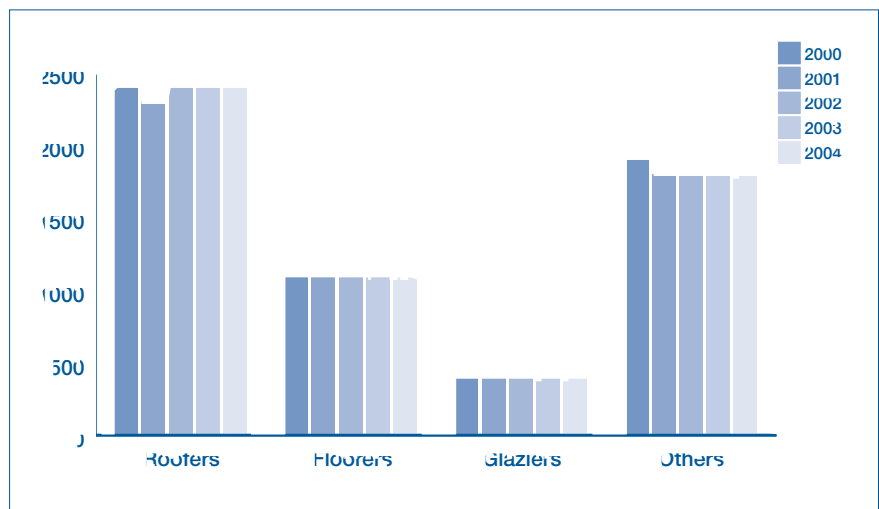
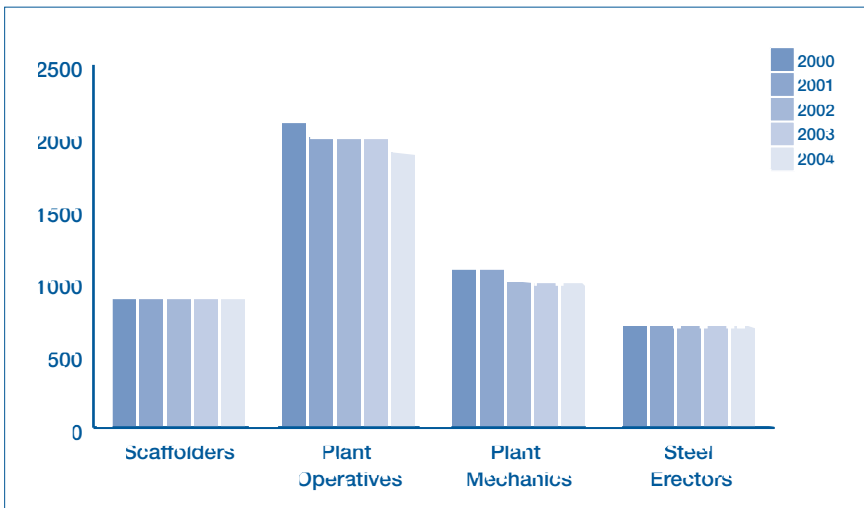


Diagram 3b Specialist Building Trades: 2000–2004

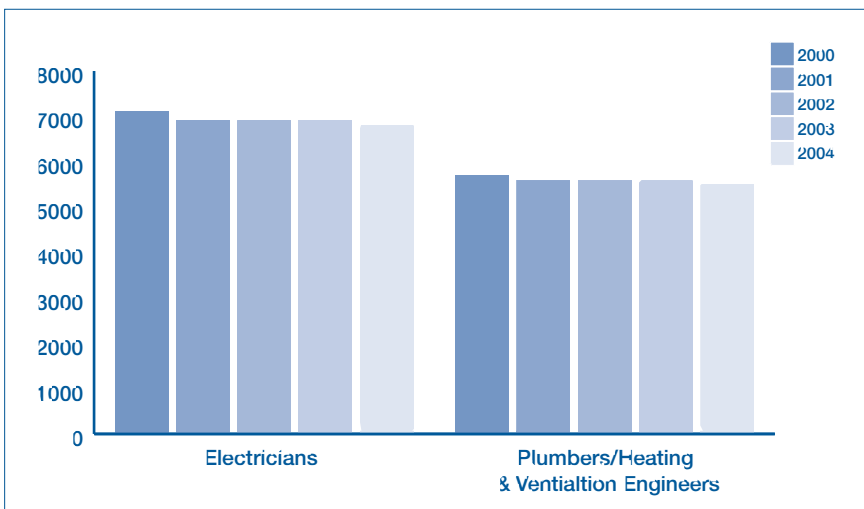


The figures should, therefore, be treated as lower end estimates of training requirement which could be sensibly added to take account of the industry's needs for a better skilled workforce in the future.

**Diagram 3c Civil Engineering Trades: 2000 – 2004**



**Diagram 3d Building Services: 2000 – 2004**



Source:  
CITB Employment Model, May 1999

## Skill Requirements and Training

Skills in the construction industry are acquired in a variety of ways. It is important to recognise therefore that figures for overall requirement do not necessarily equate to formal 'off-the-job' training. Other contributions, particularly 'on-the-job' training, and transfer from other industries, requiring conversion training, need to be taken into account.

The training needs of each occupation should be considered separately, taking into account the length and type of training. For young new recruits to the Building Trades, a two-year formal training period is now typical except in Scotland. Specialist Building operatives typically undergo a mixture of 'on-the-job' training and short courses, while for certain Civil Engineering trades, 'on-the-job' training is considered most appropriate.

### Building Trades

For the Building Trades, Table 2 gives the annual additional labour requirement, as forecast by the CITB Employment Model, compared to the first year formal intake in these trades. The table shows that some 90% of total labour requirement is covered by formal training. Over the period as a whole, an annual average shortfall of 2,400 is projected if training intake remains unchanged. However, even for Building Trades, the shortfall need not be entirely met from formal training.

**Table 2**  
**Building Trades**

Total Employment 1998 = 451,900	Actual	Assuming intake remains unchanged			
	1998	1999	2000	2001	2002
Course Start Date	1998	1999	2000	2001	2002
Total New Intake <sup>(1)</sup>	26420	26420	26420	26420	26420
Course End Date (After Two Years)	2000	2001	2002	2003	2004
Total New Output (80% of Intake) <sup>(2)</sup>	21000	21000	21000	21000	21000
Required Craftspeople <sup>(3)</sup>	23700	23200	23400	23400	23300
Potential Shortage	-2700	-2200	-2400	-2400	-2300

Sources:

CITB Employment Model, May 1999 and CITB Training Numbers Survey, Winter 1998

(1) Refers to first year intake into long-duration training. An actual figure is used for 1998 and this is assumed to remain constant from 1999 onwards.

(2) Assuming a two-year training period the total new output is 20% less than the intake, taking into account early leavers.

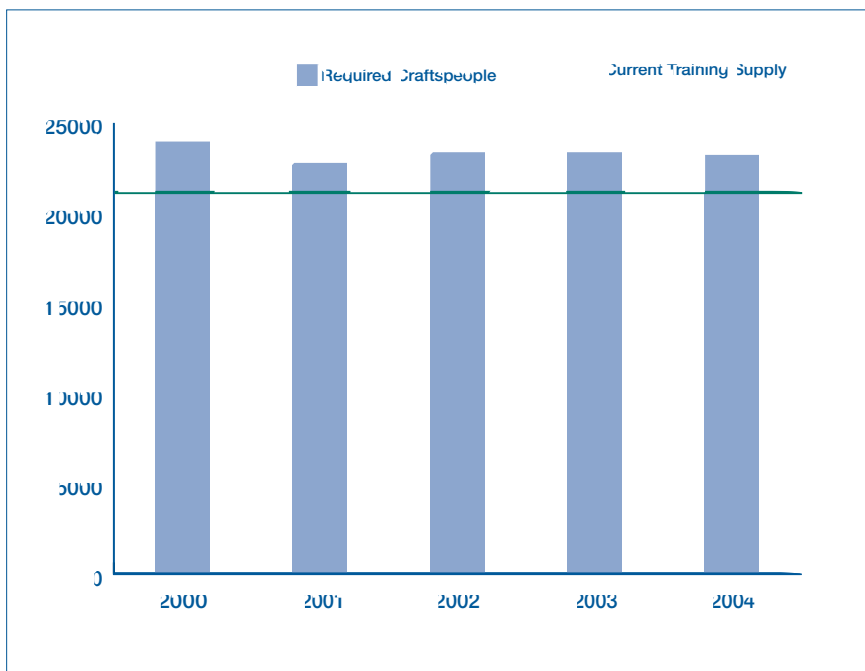
(3) Forecast of required yearly intake.



Diagram 4 illustrates the relation between the demand and supply of skills in the Building Trades.

**Diagram 4**

**Demand and Supply of Craftspeople in the Building Trades: 2000 – 2004**



Source:  
Table 2

Over the period as a whole, an annual average shortfall of 6,500 is projected if training intake remains unchanged.

ON-SITE ASSESSMENT AND TRAINING (OSAT)  
A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

### Specialist Building and Civil Engineering Trades

For Specialist Building and Civil Engineering trades, the figures in Tables 3 and 4 reveal that formal 'off-the-job' training accounts for a small proportion of total required training as forecast by the CITB Employment Model. As a consequence, CITB has channelled resources into developing a new scheme, **On-site Assessment and Training (OSAT)**, which provides a systematic approach for formalising and expanding on-the-job training.

Over the past year, there has been considerable progress in OSAT. After a two-year pilot, CITB launched a major nation-wide programme in 1999. This development should gradually close the gap between required trained intake and output from formal training particularly for Specialist Building and Civil Engineering trades, but also in the Building Trades.

**Table 3**  
**Specialist Building Trades**

Total Employment 1998 = 108,700	Actual	Assuming intake remains unchanged			
Course Start Date	1998	1999	2000	2001	2002
Total New Intake <sup>(1)</sup>	770	770	770	770	770
Course End Date (After Two Years)	2000	2001	2002	2003	2004
Total New Output <sup>(2)</sup>	770	770	770	770	770
Required Craftspeople <sup>(3)</sup>	5800	5600	5700	5700	5700
Potential Shortage	-5030	-4830	-4930	-4930	-4930

Sources:

CITB Employment Model, May 1999 and CITB Training Numbers Survey, Winter 1998

(1) Refers to first year intake into long-duration training

(2) Assuming a two-year training period is required and zero drop-out rate. An actual figure is used for 1998 and this is assumed to remain constant from 1999 onwards.

(3) Forecast of required yearly intake.

**Table 4**  
**Civil Engineering Trades**

Total Employment 1998 = 93,600	Actual	Assuming intake remains unchanged			
Course Start Date	1998	1999	2000	2001	2002
Total New Intake <sup>(1)</sup>	600	600	600	600	600
Course End Date (After Two Years)	2000	2001	2002	2003	2004
Total New Output <sup>(2)</sup>	600	600	600	600	600
Required Craftspeople <sup>(3)</sup>	4800	4600	4600	4600	4600
Potential Shortage	-4200	-4000	-4000	-4000	-4000

Sources:

CITB Employment Model, May 1999 and CITB Training Numbers Survey, Winter 1998

(1) Refers to first year intake into long-duration training

(2) Assuming a two-year training period is required and zero drop-out rate. An actual figure is used for 1998 and this is assumed to remain constant from 1999 onwards.

(3) Forecast of required yearly intake.

## Interpretation

Our aim in producing these forecasts and analyses is to provide information for those involved in planning construction training provision, i.e. CITB Area Managers, Learning and Skills Councils, RDAs, TECs/LECs, FE colleges and private training providers. By providing an agreed basis on which to act, it is hoped that the combined effort of the various partners can be harnessed to meet the needs of the industry and to guide individuals towards realistic career opportunities.

A long-term approach is adopted in this document. Because construction training traditionally takes time to complete successfully (typically 2–3 years for a young new entrant aiming to achieve an NVQ Level 2, the industry's minimum standard), we have focused on meeting industry's underlying skill requirements over a five year period. Moreover, because training provision cannot be easily switched on and off, we have not tried to model the 'cycle' or annual fluctuations in construction activity. The output forecast is based on BSL's latest forecast, but we have smoothed out the profile of output growth for both the national and regional models.

The consequences of this approach are given in Table A2a in Appendix A which shows the annual additional labour requirements over the period 2000–2004. The figures in this table show that in numerical terms the biggest annual requirements are expected to be, in descending order: Carpenters/Joiners, Managers, Electricians, Bricklayers, Clerical Workers and Plumbers.

Tables 2, 3 and 4 look at the relationship between formal training and additional labour requirements. The figures in these tables show that for Building Trades some 90% of the total required labour intake is covered by formal training – while for Specialist Building and Civil Engineering trades, the proportion is less than 20%.

More generally, it needs to be noted that these forecasts of skill demand are based on industry growth projections and assume that skill levels within the workforce will remain as before. The figures should, therefore, be treated as lower end estimates of training requirement which could be sensibly added to take account of the industry's needs for a better skilled workforce in the future. Moreover, although the forecasts of output take some account of significant large scale one-off projects (for instance those associated with the Millennium), the estimates for future skill requirements cannot ensure that all unexpected demands are met. Where local knowledge of any such additional demand is available, then separate provision, for instance through short updating-skills training for adults, should be considered.

Finally, it needs to be emphasised that all forecasts are subject to a margin of error. The figures in the tables are rounded to the nearest ten, but they are still merely indicative rather than precise. The margin of error will tend to increase as the model focuses on particular localities and the smaller occupations. Thus for the purpose of planning training at the national level, a top-down approach to modelling is preferable.

FE COLLEGES  
Colleges of Further  
Education providing  
courses to students aged  
16+, usually to NVQ/SVQ,  
GCSE or A level standard.

# Appendix A

## National Forecast

Table A1 below gives total construction employment analysed into 22 main occupational groups. Further breakdown of each group is given in Appendix B.

It should be noted that 'Managers' is a widely defined occupational category covering Site Managers, Working Proprietors as well as Company Managers and Supervisors. Carpenters and Joiners is seen to be the single largest manual occupational category in the industry, followed by Electricians, Bricklayers and Plumbers, including Heating and Ventilating Engineers. The Plumbing and Electrical figures only include operatives working in the construction industry as defined by the DETR.

**Table A1**

**Total Construction Employment by Occupation\* Great Britain, 1998**

Managers	132500
Clerical	115200
Professionals	36400
Technicians	37000
Carpenters & Joiners	201700
Bricklayers	123500
Painters	86900
Plasterers	39800
Roofers	45000
Floorers	20500
Glaziers	7700
Other SB Operatives <sup>(1)</sup>	35500
Scaffolders	17700
Plant Operatives	40600
Plant Mechanics/Fitters	21300
Steel Erectors/Structural	14000
Other CE Operatives <sup>(2)</sup>	87200
General Operatives	74100
Maintenance Workers	23800
Electricians	131900
Plumbers	107300
Non-construction Operatives	28500
<b>Total</b>	<b>1428100</b>

Sources:

CITB Employment Model, May 1999; DETR

(1) Specialist Building

(2) Civil Engineering

\* A detailed breakdown by occupations is given in Appendix B. The shares of some of the occupational categories have been revised in accordance with the results of the latest Labour Force Survey.

The expected labour requirement in the construction industry over the period 2000–2004 is given in Tables A2a and A2b. For the period 2000–2004, the figures given show the number of additional skilled workers required. For each year they assume that the previous year's requirements were met and that the workers who entered the industry in those earlier years contribute to the labour supply now. The average annual required intake is approximately 73,000, reaching a peak of 75,000 in the year 2000 and declining by some 2,000 over the next four years.

It is important to realise that the total labour requirement is made up of two elements:

- the number required to replace normal outflows (e.g. retirements) from the existing workforce
- the extra intake required by increases in total employment if any.

For the forecast period as a whole, some 65,000 each year are required for replacement while the balance is required for the increase in total construction employment.

The average annual required intake is approximately 73,000, reaching a peak of 75,000 in the year 2000 and declining by some 2,000 over the next four years.

**Table A2a**  
**Annual Requirement by Occupation\*, Great Britain**

	2000	2001	2002	2003	2004
Managers	7300	7100	7100	7100	7200
Clerical	6500	6300	6300	6300	6300
Professionals	2100	2100	2100	2100	2100
Technicians	2100	2000	2100	2100	2100
Carpenters & Joiners	10500	10200	10200	10200	10100
Bricklayers	6500	6400	6500	6500	6500
Painters	4600	4500	4600	4600	4600
Plasterers	2100	2100	2100	2100	2100
Roofers	2400	2300	2400	2400	2400
Floorers	1100	1100	1100	1100	1100
Glaziers	400	400	400	400	400
Other SB Operatives <sup>(1)</sup>	1900	1800	1800	1800	1800
Scaffolders	900	900	900	900	900
Plant Operatives	2100	2000	2000	2000	1900
Plant Mechanics/Fitters	1100	1000	1000	1000	1000
Steel Erectors/Structural	700	700	700	700	700
Other CE Operatives <sup>(2)</sup>	4600	4500	4500	4400	4300
General Operatives	3800	3600	3500	3400	3300
Maintenance Workers	1300	1300	1300	1300	1300
Electricians	7100	6900	6900	6900	6800
Plumbers	5700	5600	5600	5600	5500
<b>Totals</b>	<b>74800</b>	<b>72800</b>	<b>73100</b>	<b>72900</b>	<b>72400</b>

Sources:

CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)

\* A detailed breakdown by occupations is given in Appendix B. The shares of some of the occupational categories have been revised in accordance with the results of the latest Labour Force Survey.

The cumulative requirement over the period 2000 – 2004 is given in Table A2b below. Over the five year period, a total required intake of some 366,000 is projected.

**Table A2b**  
**Cumulative Requirement by Occupation, Great Britain**

	2000	2001	2002	2003	2004
Managers	7300	14400	21500	28600	35800
Clerical	6500	12800	19100	25400	31700
Professionals	2100	4200	6300	8400	10500
Technicians	2100	4100	6200	8300	10400
Carpenters & Joiners	10500	20700	30900	41100	51200
Bricklayers	6500	12900	19400	25900	32400
Painters	4600	9100	13700	18300	22900
Plasterers	2100	4200	6300	8400	10500
Roofers	2400	4700	7100	9500	11900
Floorers	1100	2200	3300	4400	5500
Glaziers	400	800	1200	1600	2000
Other SB Operatives <sup>(1)</sup>	1900	3700	5500	7300	9100
Scaffolders	900	1800	2700	3600	4500
Plant Operatives	2100	4100	6100	8100	10000
Plant Mechanics/Fitters	1100	2100	3100	4100	5100
Steel Erectors/Structural	700	1400	2100	2800	3500
Other CE Operatives <sup>(2)</sup>	4600	9100	13600	18000	22300
General Operatives	3800	7400	10900	14300	17600
Maintenance Workers	1300	2600	3900	5200	6500
Electricians	7100	14000	20900	27800	34600
Plumbers	5700	11300	16900	22500	28000
<b>Totals</b>	<b>74800</b>	<b>147600</b>	<b>220700</b>	<b>293600</b>	<b>366000</b>

Sources:  
CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)

Where local knowledge of any such additional demand is available, then separate provision, for instance through short updating-skills training for adults, should be considered.

## Regional Forecasts

For each regional forecast, we have included a brief commentary outlining key factors in the construction sector for each region. As far as possible, we have kept the information uniform across regions. For each region, the section includes information on:

- current major projects
- expected major projects
- reported skill shortages/gaps
- provision of training

The regional forecasts are given in Tables A3 to A13. The figures in these tables are based on separate regional models consistent with the total employment and required intake forecast by the national model. For each region, the tables include:

- total employment by occupation in 1998
- the required annual intake for each year over the forecasting period 2000-2004
- the annual average required intake for the period as a whole

As for the national table, the total labour requirement consists of two elements:

- the number required to replace the existing workforce
- the extra intake required by increases in total employment if any

For each region, labour demand is related to expected changes in output, and labour supply to the unemployment rate in the region. The relation between output and employment will vary from region to region. The replacement ratio, which depends on the share of non-manual in total employment, will also vary from region to region (professional and managerial staff have, within the model, a longer average working life than manual staff). As expected, the forecast of the required annual labour intake is more volatile at the regional level than for Great Britain as a whole since activity in the industry is unlikely to grow at the same rate in all regions. It is therefore suggested that, when planning training, the average annual required intake (given in the last column of each table) should be used – in conjunction with the yearly required intake.

Construction is a relatively mobile industry. Major contracts are tendered for on a national basis and where a site workforce is normally brought together from a very large travel-to-work area. It is not therefore necessary (or wise) to try and balance construction labour markets on a very local (say TEC area) basis. It is more important to ensure that supply meets demand over a wider area (at least at national level), and it is for this deliberate reason that CITB's analysis is taken only down to the level of the regional development agencies (RDAs) as defined on the opposite page.



## Regional Development Agency Areas

### London

**South East:** Hampshire, West Sussex, East Sussex, Kent, Surrey, Berkshire, Oxfordshire, Buckinghamshire, Isle of Wight

**Eastern:** Cambridgeshire, Norfolk, Suffolk, Essex, Hertfordshire, Bedfordshire

**South West:** Cornwall, Devon, Somerset, Dorset, Avon, Wiltshire, Gloucestershire

**Wales:** all counties

**East Midlands:** Northamptonshire, Leicestershire, Nottinghamshire, Derbyshire, Lincolnshire

**West Midlands:** Hereford and Worcester, Warwickshire, West Midlands, Staffordshire, Shropshire

**North West:** Lancashire, Greater Manchester, Cheshire, Merseyside, Cumbria

**Yorkshire and the Humber:** North Yorkshire, Humberside, West Yorkshire, South Yorkshire

**North East:** Durham, Tyne and Wear, Northumberland, Cleveland

**Scotland:** all counties

Due to revisions in the data by the Office of National Statistics (ONS), there are some differences in the regional shares of construction employment from the previous report.

There may be some discrepancies in the tables due to rounding.



In the London area, construction output in 1995 prices is forecast to increase by an average yearly rate of 2% over the forecast period 2000 – 2004. This compares to the 2.5% growth rate for Great Britain as a whole. In 1998, the rate of construction unemployment at 8% was just above the national average of 7%.

#### Current major projects

- **Housing:** A number of major re-developments, such as Paddington and Barking/Dagenham, are underway.
- **Commercial:** buoyant at present. Projects include a £30 million office development at Canary Wharf, and two £50 million projects for office development/redevelopment in the City of London.

#### Expected major projects

- **Housing:** Hammersmith, £78 million mixed project (office, housing, hotel, educational). Activity in new housing is also expected at Lea Valley, Edmonton, White City and with the continuing expansion of the Thames Gateway.
- **Commercial:** £150 million project for Sainsbury's new headquarters in Southwark. A number of £50 million contracts have been awarded.

#### Reported skill shortages

For Greater London, a number of employers have reported increasing difficulties in recruiting skilled staff. The worst affected trades are Carpenters and Joiners, Plasterers and Plumbers with over 90% of employers reporting severe difficulties in recruitment. According to employers, Bricklayers and Roofers were also hard to find. Interestingly, most of these shortages seem to be in housing-related activities.

The expectation is for a slow-down in construction activity once the millennium projects are completed, with some recovery towards the end of the forecasting period.

#### Provision of training

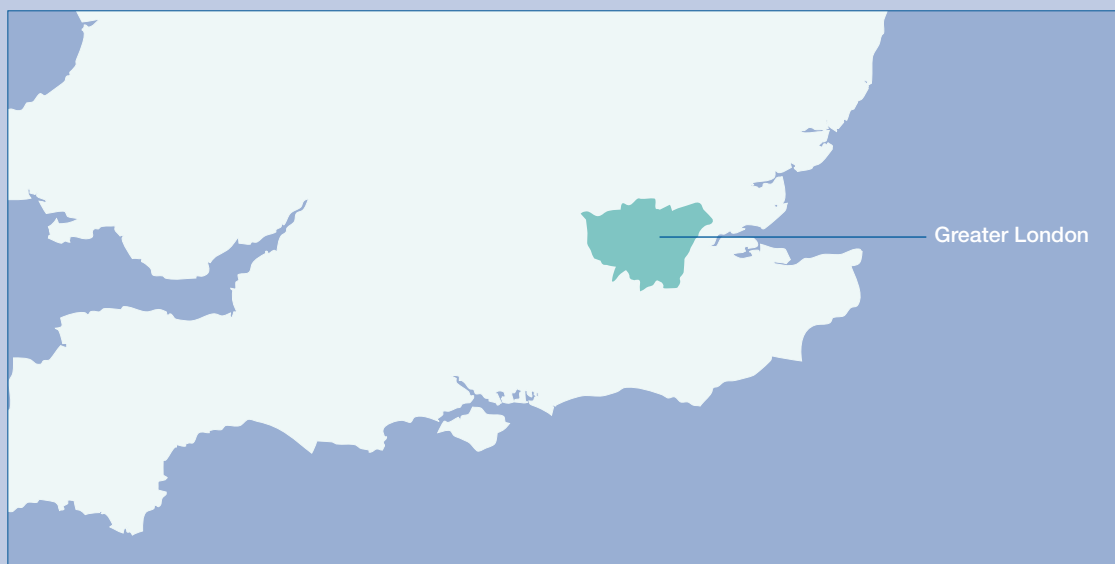
Although there has been no major closures of colleges offering construction courses, a number of courses have been discontinued resulting in a decrease in the amount and range of training provision in the area.

The uptake of **On-site Assessment and Training (OSAT)** has been fairly slow in the area. The main reason seems to be fear of costs involved in introducing the scheme.

**Table A3**  
**London**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	17380	720	680	600	660	800	690
Clerical	14850	620	580	510	570	680	590
Professionals	4730	200	190	170	190	230	200
Technicians	4770	200	190	170	190	230	190
Carpenters & Joiners	31860	1330	1290	1180	1290	1530	1320
Bricklayers	16720	650	620	550	610	730	630
Painters	10510	410	390	340	380	460	400
Plasterers	4860	190	180	160	180	210	180
Roofers	5630	220	210	180	200	250	210
Floorers	2620	100	100	90	100	120	100
Glaziers	980	40	40	30	40	40	40
Other SB Operatives <sup>(1)</sup>	4010	160	150	140	150	180	160
Scaffolders	2160	80	80	70	80	100	80
Plant Operatives	4660	180	170	150	160	190	170
Plant Mechanics/Fitters	2310	90	80	70	70	90	80
Steel Erectors/Structural	1680	70	60	50	60	70	60
Other CE Operatives <sup>(2)</sup>	10020	400	370	320	350	420	370
General Operatives	8800	330	300	260	270	310	300
Maintenance Workers	2610	110	100	90	100	120	100
Electricians	14910	600	570	500	560	660	580
Plumbers	12750	520	490	430	480	560	490
<b>Totals</b>	<b>178820</b>	<b>7220</b>	<b>6840</b>	<b>6060</b>	<b>6690</b>	<b>7980</b>	<b>6940</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





The South East is expected to be an area of relatively strong growth over the forecast period 2000 – 2004, and construction output in 1995 prices is forecast to increase by an average yearly rate of 2.7% compared to 2.5% for Great Britain. Given that unemployment in the industry at 4% is well below the national average (7%), employers may encounter difficulties in recruiting skilled staff.

### Current major projects

- **Housing:** A steady level of activity.
- **Infrastructure:** Channel Tunnel rail link and widening of the A2/M2.
- **Commercial:** Oracle Shopping Centre in Reading, West Quay Development in Southampton.
- **Industrial:** Green Park Development in Reading.

### Expected major projects

- **Housing:** strong growth in new housing is expected during 2000, particularly in Hampshire.
- **Industrial:** new docks proposal in Southampton.
- **Commercial:** West Quay Shopping Centre in Southampton, where some 800 specialist operatives, particularly shopfitters and allied trades, will be required.
- **Public:** Portsmouth Harbour Renaissance (£50 million over five years).
- Basingstoke Town Centre Redevelopment.
- Projects in Thanet and Sandwich will give a boost to East Kent.

### Reported skill shortages

Employers are reporting difficulties in recruiting staff with the required level of skills for all trades, particularly for Carpenters and Joiners. Other trades in short supply are: all Roofing Trades, Plant Operatives and Mechanics, Dry Liners, Ceiling Fixers and Partitioners. In general, the employers' perception is that offering higher wages is not a solution to the problem of skill shortages.

### Provision of training

The closure of Banbury College two years ago has created a gap in local training provisions. Trainees have to go further afield to obtain suitable training. Colleges are reporting that demand for construction courses is at an all-time high although, due to funding restrictions, they are unable to increase supply sufficiently to meet demand. The re-opening of CITB's Erith Training Centre and Laing's new training facility in East London are, therefore, particularly welcome.

Demand for **On-site Assessment and Training (OSAT)** is increasing all the time, particularly for Roofing and other Specialist Building Trades. The provision for OSAT seems to be adequate. However, employers are concerned about the cost.

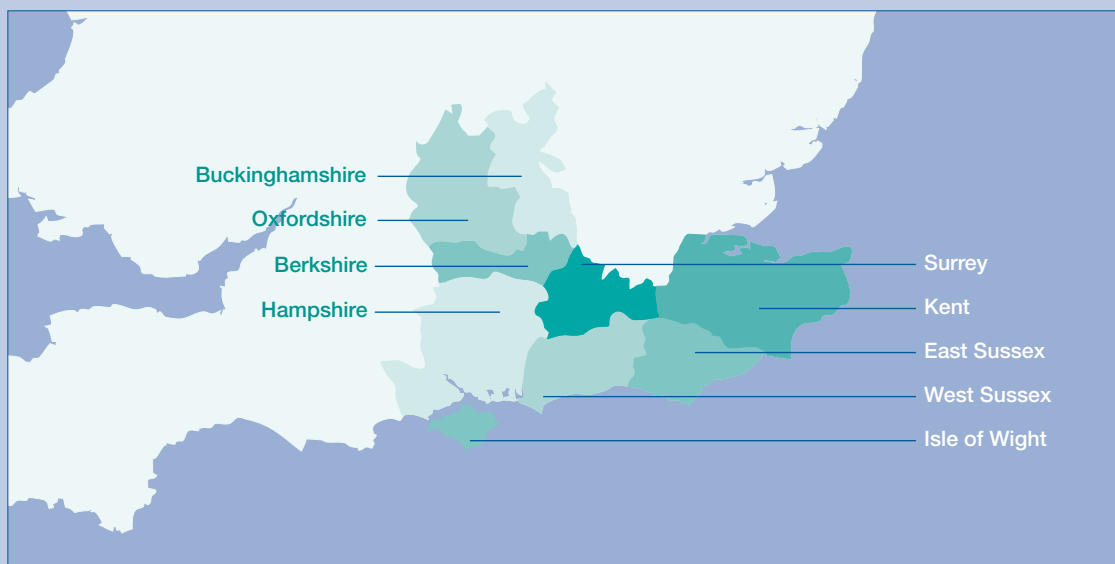
#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

**Table A4**  
**South East**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	22300	1290	1290	1500	1250	1010	1270
Clerical	19260	1130	1130	1310	1090	880	1110
Professionals	6110	370	370	430	360	290	360
Technicians	6260	370	380	440	370	300	370
Carpenters & Joiners	22120	1290	1330	1600	1320	1060	1320
Bricklayers	18350	1030	1050	1240	1040	850	1040
Painters	13300	740	750	890	750	620	750
Plasterers	6120	340	350	410	350	280	350
Roofers	6760	380	380	450	380	310	380
Floorers	3070	170	170	200	170	140	170
Glaziers	1210	70	70	80	70	60	70
Other SB Operatives <sup>(1)</sup>	5270	300	300	340	280	220	290
Scaffolders	2660	150	150	180	150	120	150
Plant Operatives	6240	350	340	390	320	260	330
Plant Mechanics/Fitters	3230	180	170	190	160	120	160
Steel Erectors/Structural	2010	110	110	130	110	80	110
Other CE Operatives <sup>(2)</sup>	12850	720	720	840	690	540	700
General Operatives	10510	560	550	630	510	400	530
Maintenance Workers	3370	190	200	230	190	150	190
Electricians	19390	1100	1110	1300	1080	870	1090
Plumbers	15320	870	880	1030	850	680	860
<b>Totals</b>	<b>205710</b>	<b>11710</b>	<b>11800</b>	<b>13810</b>	<b>11490</b>	<b>9240</b>	<b>11600</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





In the Eastern Area, construction output in 1995 prices is forecast to increase by an average yearly rate of 2.9% over the forecast period 2000 – 2004. This compares to the 2.5% growth rate for Great Britain as a whole. In 1998, the rate of construction unemployment at 5% was below the national average of 7%.

#### Current major projects

- **Housing:** buoyant across the region. In Ravenswood, Ipswich, there is an eight year contract for 1,000 dwellings, schools and shops.
- **Infrastructure:** a new bridge over the River Stour at Manningtree, Bradfield.
- **Public:** St. Edmundsbury Cathedral, Norwich and Norfolk Hospital.

#### Expected major projects

- **Housing:** further development is expected in Essex.
- **Public:** Cambridge University, multi-million and multiple projects in refurbishment.
- **Infrastructure:** a new bypass for the A130 is planned.

#### Reported skill shortages

Employers have reported difficulties in recruiting skilled staff in all counties in the Eastern Area, with the exception of Suffolk. Trades worse affected are: Carpentry and Joinery, Bricklaying and Plastering. Also, employers express concern about the quality of managers and supervisors. Poaching is a problem in the region. The shortage of skilled staff is attributed to the tendency for contractors to travel to London.

#### Provision of training

Peterborough College will discontinue its Bricklaying and its Painting and Decorating courses. New facilities are currently being sought. Essex College only offers Brickwork, Painting and Decorating, and Carpentry and Joinery thereby creating a gap in training provision for Specialist Building Trades in Essex.

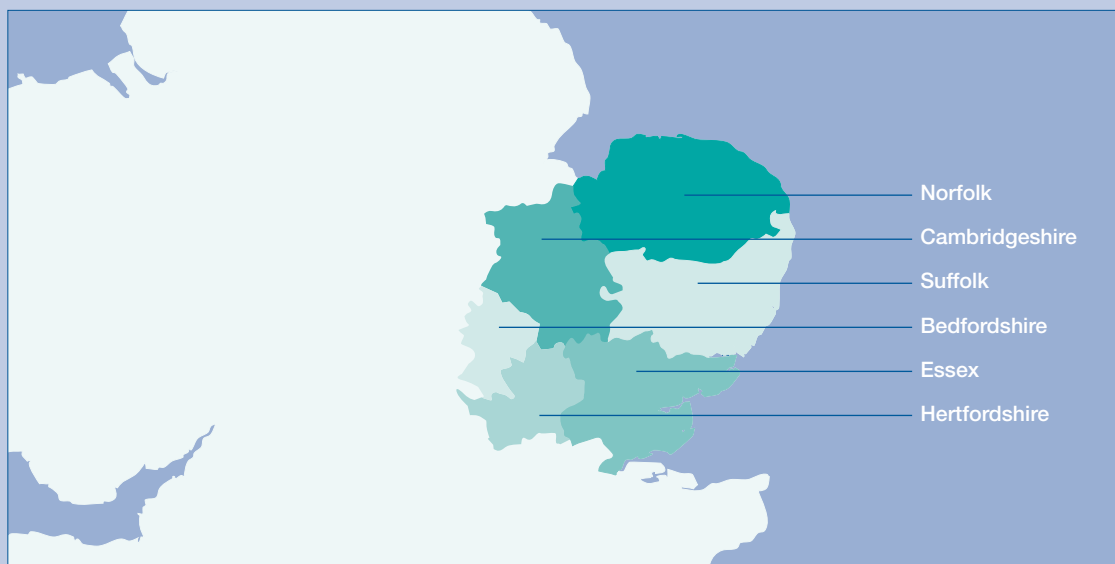
Demand for **On-site Assessment and Training (OSAT)** is growing across all counties in the East. Increased interest is shown by contractors in the Building Trades. Demand for OSAT from specialist and civil engineering companies is particularly strong in Cambridgeshire and Suffolk.

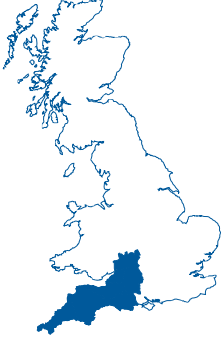
The supply of OSAT is deemed to be sufficient at the moment but may need to increase to satisfy higher expected demand.

**Table A5**  
**Eastern**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	13820	800	820	950	800	650	800
Clerical	11920	700	720	830	700	570	700
Professionals	3790	230	240	270	230	190	230
Technicians	3870	230	240	280	240	190	240
Carpenters & Joiners	16820	990	1030	1240	1050	850	1030
Bricklayers	12510	710	730	860	740	600	730
Painters	9030	510	520	610	530	440	520
Plasterers	4140	230	240	280	240	200	240
Roofers	4570	260	260	310	270	220	260
Floorers	2080	120	120	140	120	100	120
Glaziers	820	50	50	60	50	40	50
Other SB Operatives <sup>(1)</sup>	3730	210	210	250	210	170	210
Scaffolders	1800	100	100	120	110	90	100
Plant Operatives	4430	250	250	280	240	190	240
Plant Mechanics/Fitters	2250	120	120	140	110	90	120
Steel Erectors/Structural	1430	80	80	90	80	60	80
Other CE Operatives <sup>(2)</sup>	8980	510	510	590	500	400	500
General Operatives	7450	400	400	450	380	290	380
Maintenance Workers	2390	140	140	170	140	110	140
Electricians	13750	790	800	940	800	640	790
Plumbers	10870	620	640	740	630	510	630
<b>Totals</b>	<b>140450</b>	<b>8050</b>	<b>8220</b>	<b>9600</b>	<b>8170</b>	<b>6600</b>	<b>8110</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





The South West is expected to be an area of strong growth over the forecast period 2000 – 2004, and construction output in 1995 prices is forecast to increase by an average yearly rate of 3%. Given that the rate of construction unemployment (5%) is well below the national average (7%), employers may encounter difficulties in recruiting skilled staff.

### Current major projects

- Housing shows the strongest overall growth.
- In the Commercial and Public sectors, major projects include the Eden Project in Cornwall; the Harbourside and Temple Quay in Bristol; a large number of commercial projects in Weymouth.
- In the industrial sector, large projects are also underway in North Wiltshire (industrial estates in Devizes).

### Expected major projects

- Housing will continue to be buoyant, particularly in North Somerset, Swindon, Taunton, and parts of Devon and Dorset.
- In the Commercial and Industrial sectors, increased activity is expected throughout the region, and particularly in Cornwall due to Objective 1 Monies earmarked to improve the infrastructure for leisure tourism.

### Construction methods

There is evidence that the larger Housebuilders are switching from traditional site assembly methods towards more factory-based fabrication. Evidence of this change is the significant move by the larger Housebuilders in placing all supervisors and managers on NVQ Level 3 and NVQ Level 4 assessment programmes.

### Reported skill shortages

Employers are reporting difficulties in recruiting staff with the required level of skills for all trades, particularly for Carpenters, Masons and Plumbers.

### Provision of training

Demand from employers for **New Entrants** is currently 55% higher than the number of available applicants. The decline of construction activity in the early 1990's has resulted in reduced training provision. There is also some evidence that principals in Colleges of Further Education are in favour of some rationalisation in their craft training facilities. There are also significant difficulties in recruitment for Technician courses such as Higher National Diploma (HND) and General National Vocational Qualification (GNVQ) in the Built Environment. In addition, there is a delay by Colleges of Further Education in adopting and marketing the new NVQs in Construction – whether in technical or supervisory disciplines.

There is a need to extend facilities for **On-site Assessment and Training (OSAT)**. CITB is offering higher grants to companies for qualifications achieved on-the-job and it has secured **European Social Fund Monies (ESF)** for extending the provision of OSAT over the next 12-18 months.

#### NEW ENTRANTS

Individuals undertaking training who have no experience of the construction industry.

#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

#### EUROPEAN SOCIAL FUND (ESF)

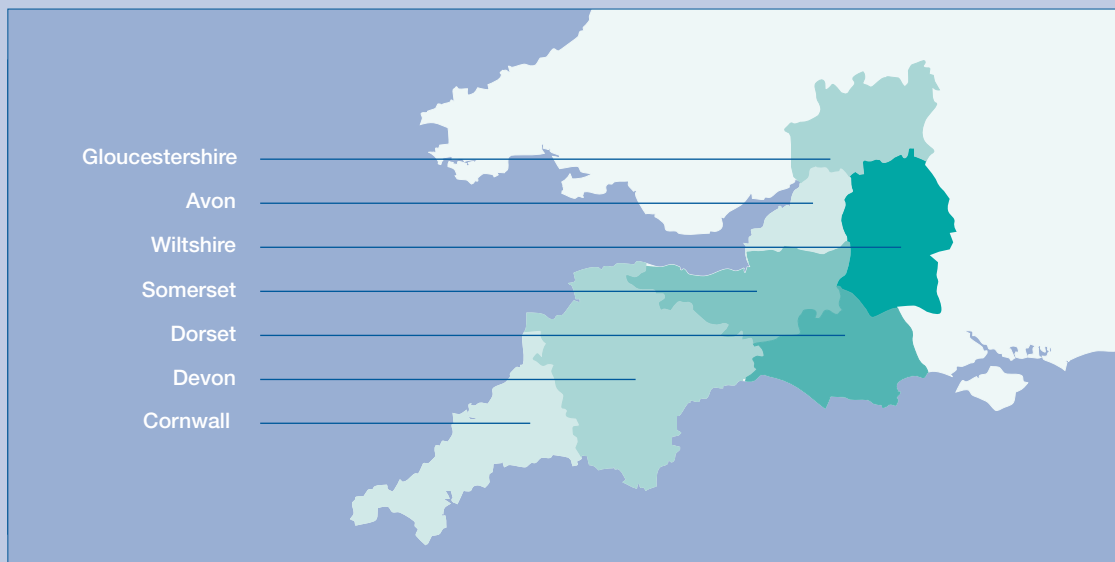
Set up in 1958 to support employment and promote labour mobility within the European Community.



**Table A6**  
**South West**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	11460	670	700	760	780	640	710
Clerical	10070	600	620	670	680	560	630
Professionals	3180	200	200	220	230	190	210
Technicians	3180	190	200	210	220	180	200
Carpenters & Joiners	19660	1010	1040	1140	1130	900	1040
Bricklayers	12520	700	740	810	830	680	750
Painters	8980	500	530	570	590	490	540
Plasterers	4490	250	260	290	300	250	270
Roofers	5300	300	310	340	350	290	320
Floorers	2410	140	140	150	160	130	140
Glaziers	790	40	50	50	50	40	50
Other SB Operatives <sup>(1)</sup>	3270	190	190	200	200	160	190
Scaffolders	2090	120	120	130	140	110	130
Plant Operatives	3360	180	190	200	200	160	190
Plant Mechanics/Fitters	2010	110	110	120	120	90	110
Steel Erectors/Structural	1330	70	80	80	80	70	80
Other CE Operatives <sup>(2)</sup>	8250	470	480	510	510	410	480
General Operatives	7000	400	400	430	420	330	400
Maintenance Workers	2330	140	140	160	160	130	140
Electricians	12130	680	710	760	780	630	710
Plumbers	10260	580	600	650	660	530	600
<b>Totals</b>	<b>134070</b>	<b>7540</b>	<b>7810</b>	<b>8450</b>	<b>8590</b>	<b>6970</b>	<b>7890</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





Over the forecast period 2000–2004, the average yearly growth rate of construction output in Wales is expected to be 2% compared to 2.5% for Great Britain as a whole. In 1998, the rate of construction unemployment (12%) was well above the national average (7%).

#### **Current major projects**

- **Commercial:** the Cardiff area is showing strong activity as a result of the Cardiff Bay Development.
- **Housing:** moderate activity.
- **Infrastructure:** comparatively slow.

#### **Expected major projects**

- **Infrastructure:** strong activity is expected as a result of the new Welsh Assembly, particularly for roads and rail due to the need of improved links between North and South Wales.

#### **Reported skill shortages**

There is a general uneasiness about availability of skilled labour. In North Wales, in particular, there have been problems in recruiting skilled shopfitters.

More generally, it is difficult to get I.T. staff in the construction industry which is possibly due to the low level of pay offered.

#### **Provision of training**

There are no major concerns regarding college closures.

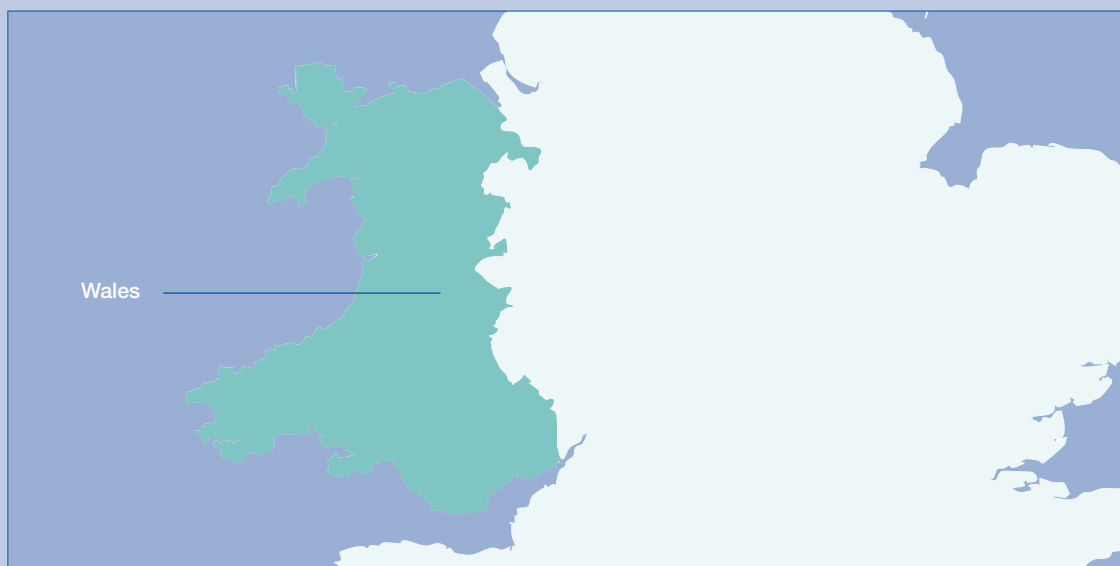
The main concern is over the low number of trainees. This is seen as likely to create difficulties in the future.

The demand for **On-site Assessment and Training (OSAT)** is expected to increase. There is, therefore, a need to expand supply.

**Table A7**  
**Wales**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	5770	260	330	300	310	370	310
Clerical	5010	220	290	260	270	320	270
Professionals	1560	70	90	90	90	110	90
Technicians	1580	70	90	80	90	100	90
Carpenters & Joiners	8660	350	450	410	400	460	420
Bricklayers	5530	230	290	260	270	310	270
Painters	4010	160	210	190	190	230	200
Plasterers	1840	80	100	90	90	110	90
Roofers	2040	80	110	100	100	120	100
Floorers	920	40	50	40	40	50	50
Glaziers	370	10	20	20	20	20	20
Other SB Operatives <sup>(1)</sup>	1630	70	90	80	80	100	80
Scaffolders	800	30	40	40	40	50	40
Plant Operatives	1880	80	100	90	90	100	90
Plant Mechanics/Fitters	950	40	50	40	40	50	50
Steel Erectors/Structural	630	30	30	30	30	30	30
Other CE Operatives <sup>(2)</sup>	3850	160	200	190	190	220	190
General Operatives	3280	130	160	140	140	160	150
Maintenance Workers	1120	50	60	60	60	70	60
Electricians	5950	250	320	290	290	340	300
Plumbers	4760	200	250	230	230	270	240
<b>Totals</b>	<b>62140</b>	<b>2610</b>	<b>3330</b>	<b>3030</b>	<b>3060</b>	<b>3590</b>	<b>3140</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





In the East Midlands, construction output in 1995 prices is forecast to increase by an average yearly rate of 2.4% over the forecast period 2000–2004. This is very close to the 2.5% growth rate for Great Britain as a whole. In 1998, the rate of construction unemployment (3%) was below the national average (7%).

### Current major projects

- **Industrial:** a £20 million project has started in Leicester, and a number of smaller projects are underway.
- **Public:** a £12 million project for the Ministry of Defence in Leicestershire.

### Expected major projects

- **Commercial:** a £40 million project is expected to start in October 1999, comprising a football stadium, hotel and retail complex in Leicester.

### Reported skill shortages

There are some difficulties in recruiting experienced staff in several sectors, together with increased pay demands from existing employees. This problem is not confined to the urban areas of the region. There is evidence of skill migration out of the region to meet the demand elsewhere. In addition, multi-skilled labour is in demand by employers in the region, particularly in the Repair, Maintenance and Improvement sector. At **New Entrant** level, some concerns have been raised regarding the quality of the recruits. Supply and demand will continue to affect wage levels.

### Provision of training

The uptake of **On-site Assessment and Training (OSAT)** has been slow, but is expected to grow significantly in the next few years. This may be influenced by the recommendations of the Cowboy Builders Working Party and the proposed Quality Mark Scheme.

In future years, the effect of the **Construction Skills Certification Scheme (CSCS)** and the **CSCS Link** may have a significant impact on training.

**NEW ENTRANTS**  
Individuals undertaking training who have no experience of the construction industry.

**ON-SITE ASSESSMENT AND TRAINING (OSAT)**  
A CITB programme which gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

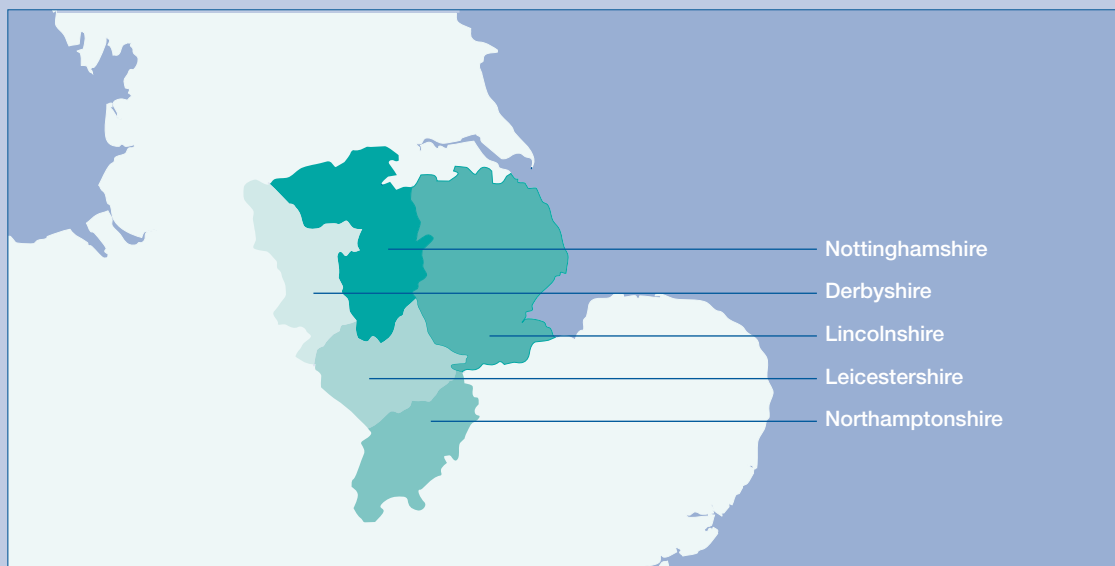
**CONSTRUCTION SKILLS CERTIFICATION SCHEME (CSCS)**  
A scheme administered by the CITB to extend certification across the industry as a whole.

**CSCS LINK**  
A temporary route into the Construction Skills Certification Scheme for those without formal qualifications.

**Table A8**  
**East Midlands**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	10150	560	550	520	550	470	530
Clerical	8720	500	490	470	480	410	470
Professionals	2810	160	160	150	160	140	150
Technicians	2830	160	160	150	160	140	160
Carpenters & Joiners	11780	580	550	530	540	450	530
Bricklayers	8690	460	450	430	450	380	440
Painters	6300	330	320	310	330	280	310
Plasterers	2900	150	150	140	150	130	140
Roofers	3200	170	160	160	170	140	160
Floorers	1450	80	70	70	80	60	70
Glaziers	570	30	30	30	30	30	30
Other SB Operatives <sup>(1)</sup>	2390	130	120	120	130	110	120
Scaffolders	1260	70	60	60	70	60	60
Plant Operatives	2810	150	140	130	140	120	140
Plant Mechanics/Fitters	1430	80	70	70	70	60	70
Steel Erectors/Structural	930	50	40	40	40	40	40
Other CE Operatives <sup>(2)</sup>	6040	320	310	300	300	250	300
General Operatives	5130	270	260	240	240	200	240
Maintenance Workers	1590	90	90	80	90	70	80
Electricians	8960	480	460	440	460	390	440
Plumbers	7100	380	370	350	360	310	350
<b>Totals</b>	<b>97040</b>	<b>5200</b>	<b>5010</b>	<b>4790</b>	<b>5000</b>	<b>4240</b>	<b>4830</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





In the West Midlands, construction output in 1995 prices is forecast to increase by an average yearly rate of 2.5% over the forecast period 2000–2004. This is the same as the national average. In 1998, the rate of construction unemployment (5%) was below the national average (7%).

#### Current major projects

- **Commercial:** a £40 million project comprising leisure and shopping facilities as well as a considerable residential element. There is also a £14 million project for market refurbishment as part of the Bull Ring Shopping Centre in Birmingham (the overall budget for Bull Ring Shopping Centre is expected to reach £250 million).

#### Expected major projects

- **Industrial:** a number of smaller industrial projects are expected to start in late 1999.
- Birmingham and Coventry have significant projects planned (the National Exhibition Centre, Birmingham Airport and Coventry City stadium), and this level of activity affects the construction output for the West Midlands county as a whole.

#### Reported skill shortages

No reports of severe skill shortages, though there is evidence of skill migration to meet the current demand, particularly in the Repair, Maintenance and Improvement sector. In addition, at **New Entrant** level some concerns have been raised regarding the quality of the recruits. Supply and demand will continue to affect wage levels.

#### Provision of training

The uptake of **On-site Assessment and Training (OSAT)** has been slow, but is expected to grow significantly in the next few years. This may be influenced by the recommendations of the Cowboy Builders Working Party and the proposed Quality Mark Scheme.

In future years, the effect of the **Construction Skills Certification Scheme (CSCS)** and **CSCS Link** may have a significant impact on training.

#### NEW ENTRANTS

Individuals undertaking training who have no experience of the construction industry.

#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme which gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

#### CONSTRUCTION SKILLS CERTIFICATION SCHEME (CSCS)

A scheme administered by the CITB to extend certification across the industry as a whole.

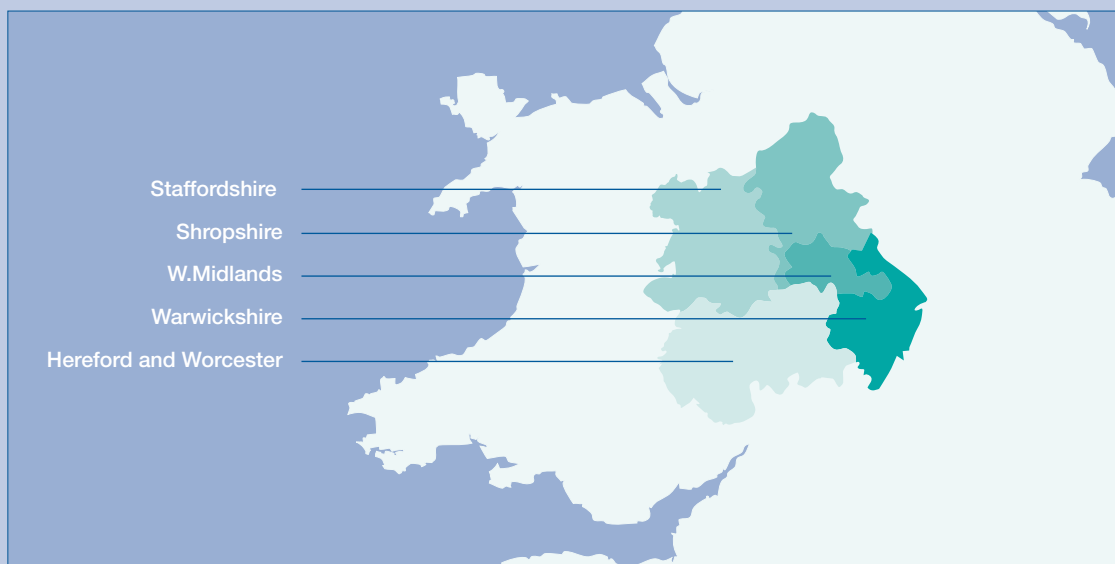
#### CSCS LINK

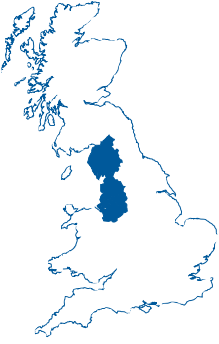
A temporary route into the Construction Skills Certification Scheme for those without formal qualifications.

**Table A9**  
**West Midlands**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	10280	560	560	530	560	510	540
Clerical	9040	500	500	470	500	460	490
Professionals	2740	160	160	160	170	150	160
Technicians	2930	160	160	150	160	150	160
Carpenters & Joiners	25160	1310	1270	1190	1210	1070	1210
Bricklayers	11400	640	640	600	640	590	620
Painters	8690	480	480	460	490	450	470
Plasterers	4000	220	220	210	220	210	220
Roofers	4410	250	240	230	250	230	240
Floorers	2000	110	110	110	110	100	110
Glaziers	790	40	40	40	40	40	40
Other SB Operatives <sup>(1)</sup>	3430	180	170	160	170	150	170
Scaffolders	1700	90	90	90	100	90	90
Plant Operatives	4050	210	200	190	190	180	190
Plant Mechanics/Fitters	1980	100	100	90	90	80	90
Steel Erectors/Structural	1330	70	70	60	70	60	60
Other CE Operatives <sup>(2)</sup>	8130	450	440	410	430	380	420
General Operatives	7080	400	390	370	380	340	380
Maintenance Workers	2280	120	120	110	120	110	120
Electricians	12690	680	660	620	660	590	640
Plumbers	10120	540	530	500	520	470	510
<b>Totals</b>	<b>134230</b>	<b>7270</b>	<b>7150</b>	<b>6750</b>	<b>7080</b>	<b>6410</b>	<b>6930</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





Over the forecast period 2000–2004, the average yearly growth rate of output in the North West is expected to be 2.2% compared to 2.5% for Great Britain as a whole. In 1998, the rate of construction unemployment at just over 7% was similar to the national average.

### Current major projects

There is cautious optimism regarding current activity and there are examples of high levels of activity, particularly in Manchester and increasingly in Liverpool.

In Manchester, construction activity remains buoyant:

- **Commercial:** rebuilding of the city centre is continuing.
- **Infrastructure:** a building programme for the Commonwealth Games, including a new stadium and a swimming pool.

In Merseyside, the level of renewed activity includes:

- A new Ford factory at Halewood.
- Developments at Liverpool Airport.
- Various regeneration projects.

### Expected major projects

- Potential for major renovation work, particularly in Merseyside, supported by **European Social Fund (ESF)** Objective 1 funding.
- Potential development of brownfield sites for industry and housing. Based on a North West Development Agency report, some 25% of brownfield sites are in the North West England.
- Potential for infrastructure based on the North West Development Agency Strategy – in particular, the M62 corridor and new and improved road/rail links across the Pennines.
- Within the Housing sector overall, steady growth is predicted but the picture varies across the region.

#### NEW ENTRANTS

Individuals undertaking training who have no experience of the construction industry.

#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

#### EUROPEAN SOCIAL FUND (ESF)

Set up in 1958 to support employment and promote labour mobility within the European Community.

### Reported skill shortages

There have been no reports of major skills shortages, however there are one or two hot spots developing in Carpentry and Joinery and Wet Trades (particularly Plastering) in Manchester. There is, however, some concern over quality of **New Entrants**. Employers are able to fill vacancies but do not always feel that new recruits have required level of skills.

### Provision of training

CITB is developing a skills strategy together with the North West TECs for submission to the North West Development Agency.

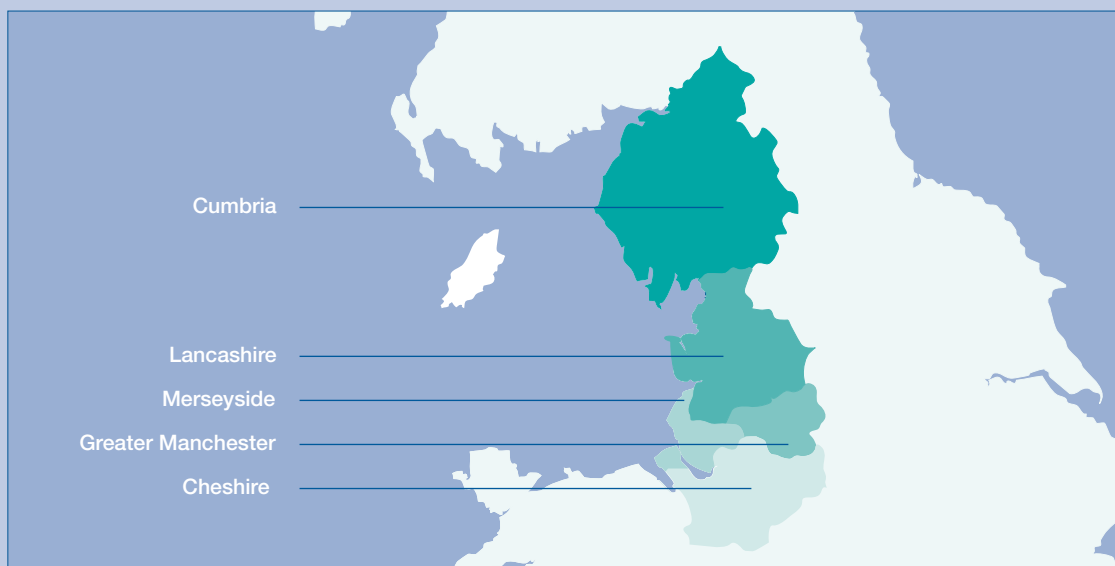
Employers are showing an increasing interest in **On-site Assessment and Training (OSAT)**.



**Table A10**  
**North West**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	14570	860	780	750	760	740	780
Clerical	12780	780	710	680	700	670	710
Professionals	4060	260	230	230	230	230	240
Technicians	4080	250	230	220	230	220	230
Carpenters & Joiners	19610	1100	990	950	940	890	970
Bricklayers	12160	690	630	610	620	600	630
Painters	8810	500	450	440	450	440	460
Plasterers	4050	230	210	200	210	200	210
Roofers	4480	250	230	220	230	220	230
Floorers	2030	120	100	100	100	100	100
Glaziers	800	50	40	40	40	40	40
Other SB Operatives <sup>(1)</sup>	3890	220	200	190	190	180	200
Scaffolders	1770	100	90	90	90	90	90
Plant Operatives	4660	260	230	210	220	210	230
Plant Mechanics/Fitters	2300	130	110	110	110	100	110
Steel Erectors/Structural	1500	80	70	70	70	70	70
Other CE Operatives <sup>(2)</sup>	9300	520	470	450	450	430	460
General Operatives	8100	440	390	360	360	340	380
Maintenance Workers	2610	150	140	130	140	130	140
Electricians	14490	830	750	720	730	700	750
Plumbers	11440	660	590	570	580	550	590
<b>Totals</b>	<b>147490</b>	<b>8480</b>	<b>7640</b>	<b>7340</b>	<b>7450</b>	<b>7150</b>	<b>7620</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





Over the forecast period 2000–2004, the average yearly growth rate of construction output in Yorkshire and the Humber is expected to be 2.2% compared to 2.5% for Great Britain as a whole. In 1998, unemployment at 9% was above the national average.

### Current major projects

- **Housing:** a considerable level of housing association activity, both new-build and refurbishment, fuelled by **European Social Fund (ESF)** and **Single Regeneration Budget (SRB)** Monies. Projects are linked to incorporating training initiatives for tackling some areas of inner city deprivation and focusing on upskilling 'local' labour and the unemployed.
- **Industrial and Commercial:** most new work is in West Yorkshire.

### Expected major projects

- **Housing:** with continued support from the ESF and other funding, growth will be maintained in housing association activity, both new-build and refurbishment.
- **All sectors:** the granting of ESF Objective 1 status to South Yorkshire is expected to show a distinct increase in activity in the next three to five years.
- **Civil Engineering:** an increase is expected in rail and water.

### Reported skill shortages

- In South and West Yorkshire, employers report difficulties in recruitment particularly for Bricklayers.
- In the eastern part of the area, Carpenters and Joiners are in short supply.
- Carpenters and Joiners: one federation reports a general shortage.

### Provision of training

Overall, off-the-job training is adequately covered by Colleges of Further Education, but there has been a specific demise in provision available for rural North Yorkshire.

**On-site Assessment and Training (OSAT)** is very much in its infancy in the area but the interest shown, particularly by specialist companies, is very encouraging.

The number of school leavers applying to CITB continues to decline. Employers are having to look at other areas for recruitment and training, with upskilling of existing operatives being favoured.

The petrochemical industries on the South Bank of the Humber have introduced stricter contract compliance rules requiring operatives with relevant NVQs. This requirement has led to demand for a scaffolding training provision, currently under development. The anticipated throughput of the existing workforce will lead to high demand for this qualification.

#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

#### EUROPEAN SOCIAL FUND (ESF)

Set up in 1958 to support employment and promote labour mobility within the European Community.

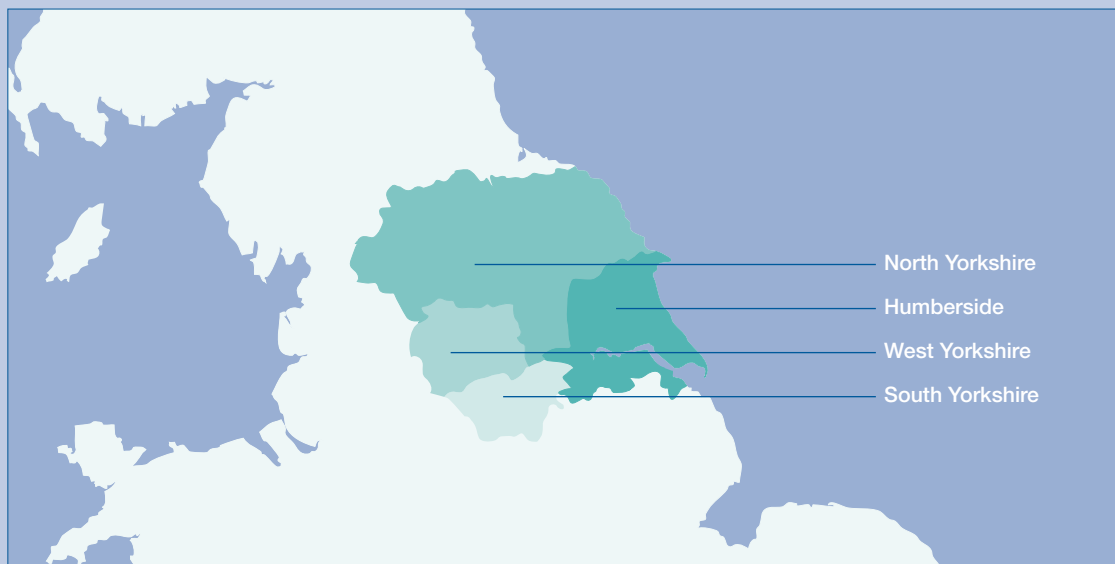
#### SINGLE REGENERATION BUDGET (SRB)

Established in 1994 to promote flexible and locally responsive forms of social regeneration.

**Table A11**  
**Yorkshire and the Humber**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	9540	540	500	520	540	620	540
Clerical	8410	480	440	460	470	540	480
Professionals	2630	160	150	150	160	180	160
Technicians	2660	160	140	150	160	180	160
Carpenters & Joiners	13350	690	610	630	620	680	650
Bricklayers	10600	570	530	540	570	650	570
Painters	7010	380	350	360	370	420	380
Plasterers	2960	160	150	150	160	180	160
Roofers	3500	190	170	180	190	220	190
Floorers	1590	90	80	80	90	100	90
Glaziers	520	30	30	20	20	30	30
Other SB Operatives <sup>(1)</sup>	3090	170	150	160	170	180	170
Scaffolders	1380	70	70	70	80	80	70
Plant Operatives	3200	170	150	160	160	180	160
Plant Mechanics/Fitters	1880	100	90	90	90	100	90
Steel Erectors/Structural	1220	60	60	60	60	70	60
Other CE Operatives <sup>(2)</sup>	7660	410	380	380	400	440	400
General Operatives	6370	330	300	310	310	330	320
Maintenance Workers	2140	120	110	110	110	130	120
Electricians	11390	620	560	580	600	670	610
Plumbers	9420	510	470	490	500	560	510
<b>Totals</b>	<b>110520</b>	<b>6010</b>	<b>5490</b>	<b>5640</b>	<b>5820</b>	<b>6560</b>	<b>5900</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





Over the forecast period 2000–2004, the average yearly growth rate of construction output in the North East is expected to be 2.1% compared to 2.5% for Great Britain as a whole. In 1998, the rate of construction unemployment at 12% was well above the national average of 7%.

### Current major projects

- **Housing:** residential housing (both private and social) is currently buoyant on greenfield sites, with brownfield sites less active at present.
- **Commercial/Industrial:** new office blocks, shopping centres and manufacturing facilities are springing up around the region on land heavily subsidised by grant aid from the Local Councils and **European Regional Development Fund (ERDF)** Monies.
- The ongoing development of the riversides on the Tyne and the Wear with offices and commercial properties continues at a steady pace.
- **Public:** two large PFI projects that comprise the development of the Gateshead Quay and the National Music Centre.

### Expected major projects

Due to the high cost of developing brownfield sites for residential purposes, the government directive on the development and use of brownfield sites in preference to greenfield sites could have a negative effect on construction activity in the next 2-3 years. A joint study is being carried out by the RDA and the Housebuilding Federation to identify the region's top 50 brownfield sites that are suitable, in terms of cost, for development and also dwelling capacity.

### Reported skill shortages

At the operative level, employers report difficulties in recruiting highly skilled operatives – particularly for Bricklayers, Carpenters and Joiners and some Specialist Building Trades such as Wall and Floor Tiling.

At the professional level, there is a shortfall of qualified staff in many of the larger companies due to past redundancies not being replaced and recent upturns in activity.

### Provision of training

Due to the perceived high costs of construction training, colleges are reconsidering their training provisions, and training facilities could decline to 80% of the present level over the next two to three years.

Demand for **On-site Assessment and Training (OSAT)** is expected to increase sharply over the next 12-18 months and may become the focal point of training provision in some areas and for some companies. CITB expects to be able to meet the demand created by the **Construction Skills Certification Scheme (CSCS) Link** through OSAT.

#### EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF)

Established to provide grants and loans to poorer areas within the European Community.

#### ON-SITE ASSESSMENT AND TRAINING (OSAT)

A CITB programme that gives workers the opportunity to gain formal qualifications through training and assessment in the workplace.

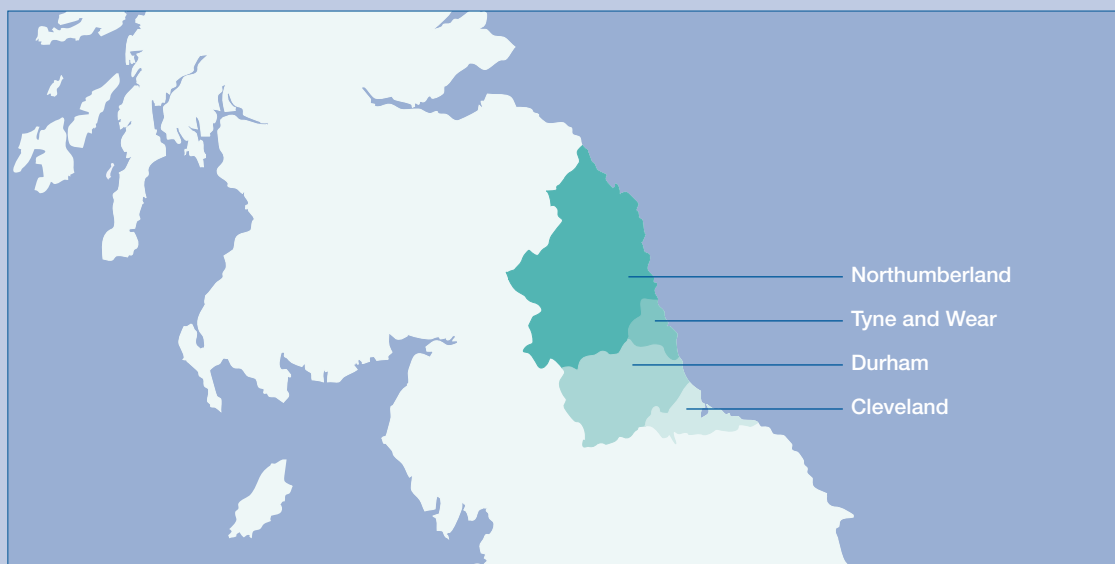
#### CSCS LINK

A temporary route into the Construction Skills Certification Scheme for those without formal qualifications.

**Table A12**  
**North East**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	4930	280	270	230	250	300	270
Clerical	4330	250	250	210	230	270	240
Professionals	1380	80	80	70	70	90	80
Technicians	1370	80	80	70	70	90	80
Carpenters & Joiners	8690	460	450	390	400	460	430
Bricklayers	4680	250	250	220	230	280	250
Painters	3400	180	180	160	160	200	180
Plasterers	1560	80	80	70	80	90	80
Roofers	1720	90	90	80	80	100	90
Floorers	780	40	40	40	40	50	40
Glaziers	310	20	20	10	20	20	20
Other SB Operatives <sup>(1)</sup>	1670	90	90	80	80	90	90
Scaffolders	680	40	40	30	30	40	40
Plant Operatives	2010	110	100	90	90	110	100
Plant Mechanics/Fitters	990	50	50	40	40	50	50
Steel Erectors/Structural	650	30	30	30	30	30	30
Other CE Operatives <sup>(2)</sup>	4020	220	210	180	190	220	200
General Operatives	3470	180	170	140	150	170	160
Maintenance Workers	1130	60	60	50	60	70	60
Electricians	6240	340	330	290	300	360	320
Plumbers	4920	270	260	230	230	280	250
<b>Total</b>	<b>58930</b>	<b>3200</b>	<b>3130</b>	<b>2710</b>	<b>2830</b>	<b>3370</b>	<b>3060</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)





Over the forecast period 2000–2004, the average yearly growth rate of construction output in Scotland is expected to be 2.1% compared to 2.5% for Great Britain as a whole. The rate of construction unemployment (9%) was above the national average of 7%.

#### Current major projects

- **Housing:** there is steady growth in all counties.
- **Infrastructure:** there are no roads programmes in Scotland currently, and this is causing concern.
- **Commercial:** the shopfitting sector is experiencing growth.

#### Expected major projects

- A modest level of activity is expected for most sectors, except for the Civil Engineering sector where a downturn is expected.

#### Reported skill shortages

- Skill shortages are expected in Bricklaying, Plastering, Scaffolding, Roof Slating and Tiling.

#### Provision of training

Funding for Colleges of Further Education was, at times, inadequate resulting in the closure of some courses. In particular, colleges need more funds to provide longer courses for Painting and Decorating.

Current **New Entrant** recruitment levels are expected to exceed 1999 CITB targets, as set out in the CITB Business Plan.

A recent development has been for contracts to be awarded to material suppliers on a 'supply and fix' basis using semi-skilled operatives. This could require the material suppliers to provide some short-term conversion training.

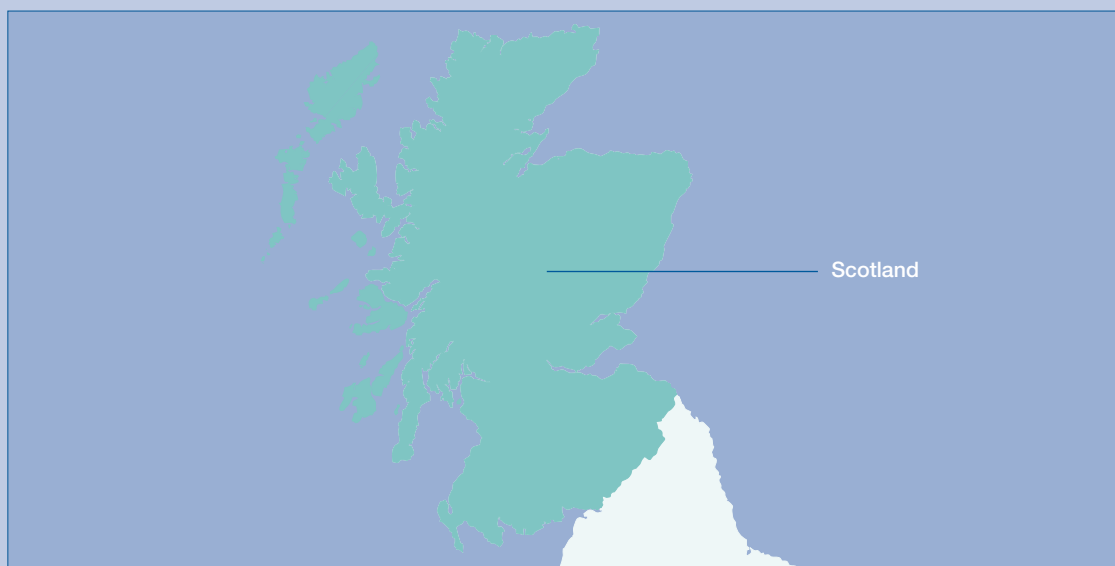
#### NEW ENTRANTS

Individuals undertaking training who have no experience of the construction industry.

**Table A13**  
**Scotland**

	Employment	Annual Labour Requirement					Average Annual Requirement
	1998	2000	2001	2002	2003	2004	2000 – 2004
Managers	12350	760	630	550	750	940	730
Clerical	10800	660	550	480	650	800	630
Professionals	3420	220	180	160	220	270	210
Technicians	3450	210	180	160	210	270	200
Carpenters & Joiners	23940	1400	1150	1020	1330	1610	1300
Bricklayers	10380	580	480	420	570	710	550
Painters	6860	390	320	280	380	470	370
Plasterers	2900	160	130	120	160	200	150
Roofers	3430	190	160	140	190	230	180
Floorers	1560	90	70	60	90	110	80
Glaziers	510	30	20	20	30	40	30
Other SB Operatives <sup>(1)</sup>	3150	180	150	130	180	220	170
Scaffolders	1350	80	60	50	70	90	70
Plant Operatives	3260	180	150	130	170	210	170
Plant Mechanics/Fitters	1930	110	90	80	100	130	100
Steel Erectors/Structural	1330	80	60	50	70	90	70
Other CE Operatives <sup>(2)</sup>	8100	460	380	330	430	530	420
General Operatives	6860	360	290	250	330	390	320
Maintenance Workers	2190	130	110	100	130	170	130
Electricians	11960	700	570	500	670	820	650
Plumbers	10290	600	490	430	580	710	560
<b>Totals</b>	<b>130020</b>	<b>7570</b>	<b>6220</b>	<b>5460</b>	<b>7310</b>	<b>9010</b>	<b>7090</b>

Sources: CITB Employment Model, May 1999; Business Strategies (notes as in Table A1)



# Appendix B

The following tables give further occupational breakdown for most groups in Table A1. The more detailed occupation categories given here mirror, as far as possible, NVQ categories.

**Table B1:**

Wood Trades	Number
Carpenters & Joiners (Sitework)	155564
Carpenters & Joiners (Benchwork)	35263
Shopfitters	5526
Formworkers	1862
Wood Machinists	3485
<b>Total Wood Trades</b>	<b>201700</b>

**Table B2:**

Trowel Trades	Number
Bricklayers	117715
Cavity Wall Tie Installers	532
Facade Maintenance/Cleaning	1488
Stonemasons	3765
Plasterers (Fibrous)	7749
Plasterers (Solid)	27790
Dry Liners	4261
<b>Total Trowel Trades</b>	<b>163300</b>

**Table B3:**

Roofing Trades	Number
Thatchers	256
Slaters and Tilers	28192
Built-up Felt Roofers	6289
Sheeters and Cladders	6200
Single Ply Roofers	1613
Liquid Applied Roofers	278
Mastic Asphalters	2172
<b>Total Roofing Trades</b>	<b>45000</b>

**Table B4:**

Flooring Trades	Number
Floorcovers, inc. Carpet Fitters	8191
Wall and Floor Tilers	12309
<b>Total Flooring Trades</b>	<b>20500</b>

**Table B5:**

Other Specialist Building Trades	Number
Ceiling Fixers	7853
Demountable Partition Erectors	7640
Demolition Operatives	16847
Steeplejacks/Lightning Conductor Engineers	3160
<b>Total Other SB Trades</b>	<b>35500</b>



**Table B6:**

Steel Trades	Number
Steel Erectors/Riggers	6831
Structural Steel Workers	7169
<b>Total Steel Trades</b>	<b>14000</b>

**Table B7:**

Plant Operating Trades	Number
Crane Drivers	2186
Plant Operators	38414
<b>Total Plant Operating Trades</b>	<b>40600</b>

**Table B8:**

Other Civil Engineering Trades	Number
Asphalters	8209
Bar Benders/Steel Fixers	1053
Public Utilities Distribution Operatives	21203
Mason Paviers	5857
General CE Operatives	50878
<b>Total Civil Engineering Trades</b>	<b>87200</b>

**Table B9:**

Maintenance Trades	Number
Maintenance Operatives	7000
Thermal Insulation Engineers	16800
<b>Total Maintenance Trades</b>	<b>23800</b>

**Table B10:**

Plumbing Trades	Number
Plumbers	28215
Heating and Ventilating Engineers	71669
Refrigeration & Air Conditioning Engineers	7416
<b>Total Plumbing Trades</b>	<b>107300</b>

**Table B11:**

Administrative Staff	Number
Managers	132500
Supervisors	38086
Clerical Staff	65628
Sale Staff	11486
<b>Total Administration</b>	<b>247700</b>

**Table B12:**

Professional Functions	Number
Planning Services	2376
Architectural & Design	4832
Engineering & Design	8652
Surveying	20540
Technical	37000
<b>Total Professionals</b>	<b>73400</b>

Tables B11 and B12 give further occupational breakdown for non-manual occupations in the construction industry. For professional and technical functions, it should be noted that between 70% and 80% of construction professional and technical staff work for professional partnerships and are not therefore included in total construction employment as defined by DETR.

Sources:

ONS: Labour Force Survey, Spring 1999

Strategic Forum of Construction NTO's Survey of Employment by Occupation, Spring 1998

CITB Employment Model, May 1999

# Part Two: Training Supply

## Introduction

The forecast of skill demands for the construction industry must be seen in the context of potential training supply. Only then will possible skill shortages or surpluses become apparent. Since the 1970's, the CITB has conducted an annual survey of colleges and training centres to assess the numbers of trainees attending construction courses. The results are used to project the number of skilled workers who will be entering the industry in two year's time.

## Methods

The CITB Trainee Numbers Survey gives annual figures for the number of first year students starting construction courses across the country. It is carried out in October each year, and counts only those students who actually attend a course, as opposed to those who enrol but do not attend. The advantages of using the survey when compared to other sources of student numbers, are that information is available quickly (within a few weeks), and that detailed data is given at national, regional and local levels. This allows us to make projections for skill supply in greater detail.

Trainee numbers are given for different construction courses which relate to individual trades, with new starters classified by their route of entry onto the course. There are three routes of entry into training:

- As an employee or new entrant trainee (including modern apprenticeships and national traineeships)
- As an adult trainee (but not those on 'leisure' courses)
- As a student under 18 years of age on courses without a modern apprenticeship or national traineeship element.

The Trainee Numbers Survey has been enhanced over the years, and now includes the larger private training providers alongside the FE colleges with Construction Departments. Data is also collected on the number of women and ethnic minorities who are starting construction training, providing as complete a picture as possible of skill supply in the construction industry.

The Trainee Numbers Survey is not a statutory obligation on colleges, so it may not include all trainees attending courses throughout the country. However, the response rate is high enough – about 90% nationally – to give an accurate indication of training levels.

## Comparison with FEFC Numbers and NVQ Registrations

There are several differences between the figures for NVQ and City & Guilds registrations as supplied by the FEFC, and the Trainee Numbers Survey. Whereas the Trainee Numbers Survey is concerned primarily with the flow of new entrants on to construction courses, the FEFC records the size of the whole student population across all years of the course.

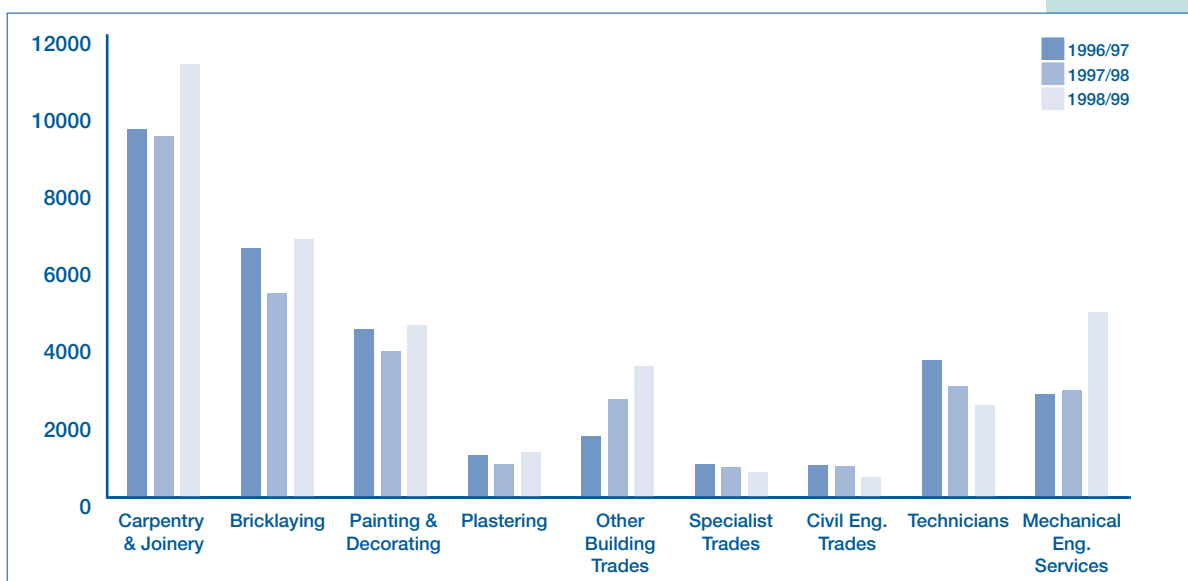
As the nature of NVQs is to recognise a person's competence, it is possible to achieve an NVQ without going through a particular training course. By being carried out in October or November each year, the Trainee Numbers Survey counts only those who actually attend a course rather than those merely registering for an NVQ. It also avoids the problem of double counting those enrolled on more than one course by being a head count of trainees within a college.

Finally, due to the way NVQs are classified, the FEFC has a much broader definition of construction courses than that adopted by the Trainee Numbers Survey e.g. Furniture Restoration, Town & County Planning, and so on. The net result of these differences is to make the FEFC data on trainees some four times greater than that of the Trainee Numbers Survey.

## Numbers in Training

The following diagram illustrates how formal training is prominent in certain trades. In 1998/99, Carpentry & Joinery accounted for around 32% of total first year intake, compared to 1.5% for Civil Engineering Trades.

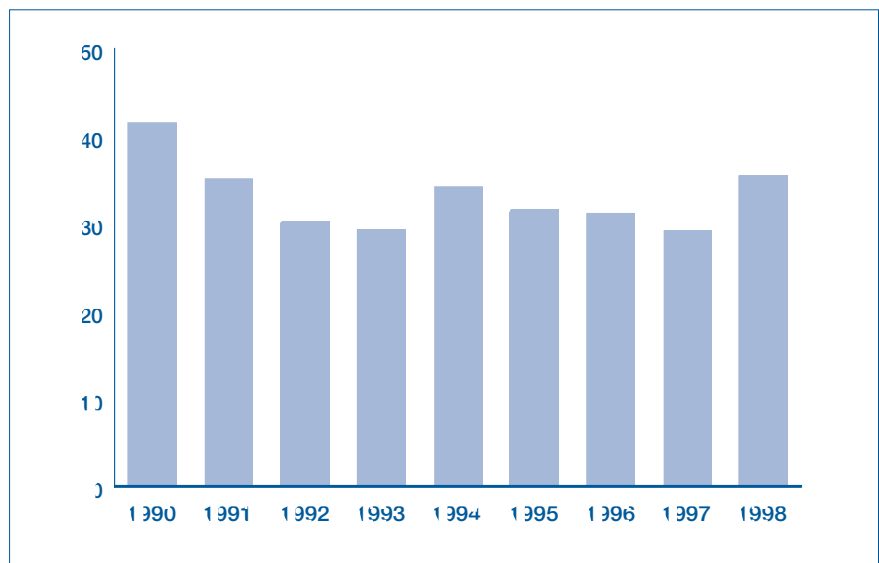
A Comparison of First-Year Intake by Broad Occupational Group 1996/97 – 1998/99



Source:  
CITB Trainee Numbers Survey.  
Note: Method of collecting data changed in 1998/9.

The next diagram shows the numbers entering construction training during the 1990's. Much of the increase in trainee numbers across all trades in 1998 is attributable to an increase in the number of adults entering training.

**Numbers of First Year Enrolments on Construction Courses at FE Colleges and Training Centres, in Thousands: 1990–98**



Source:  
CITB Trainee Numbers Survey

Throughout most of the nineties the number of people attending construction training courses has fluctuated around the 30,000 level. This figure is down some 10,000 on the pre-recession training figure of the late 1980's, and results from a reduction in the workforce of around 450,000 over this period.

## CITB Trainee Numbers Survey 1998 – 1999

The total number of new enrolments on construction courses in 1998 – 1999, taken from the CITB Trainee Numbers Survey is shown below:

### Route of Entry

Trade	Employer Sponsored/ Youth Trainee	Students Under 18	Adult	CITB NETs Total	Total 1998/99
Carpentry & Joinery	2893	2978	2605	2744	11220
Bench Joinery	503	445	416	221	1585
Wood Machining	369	60	359	45	833
Shopfitting	21	31	18	89	159
Bricklaying	1563	1711	2110	1299	6683
Stonemasonry	41	10	79	42	172
Plastering	291	188	496	196	1171
Fibrous Plastering	13	8	30	57	108
Dryliner	0	0	19	7	26
Painting & Decorating	858	1185	1450	968	4461
General Operatives	213	217	110	16	556
Mastic Asphalting	3	0	0	14	17
Roof Slating & Tiling	57	12	18	180	267
Built-up Felt Roofer	0	0	0	67	67
Other Roofers	0	0	0	35	35
Wall & Floor Tiling	13	25	133	64	235
Floor Laying	0	30	7	58	95
Demountable Partitioner	0	0	0	4	4
Glazing	23	7	2	22	54
Paint Maint. Mechs.	66	28	65	119	278
Scaffolding	15	0	13	181	209
Steeplejacks	0	0	0	0	0
Civil Eng. Operatives	3	0	0	38	41
Plant Operator	0	0	0	6	6
Other Civil Eng.	0	5	6	38	49
Building Technicians	595	310	420	114	1439
Civil Eng. Technicians	295	79	136	20	530
Plant Technicians	14	10	25	21	70
Cons. Technicians	106	77	167	2	352
Plumbing	1942	868	1370	136	4316
Gas Fitting	223	94	165	0	482
<b>Total 1998/99</b>	<b>10120</b>	<b>8378</b>	<b>10219</b>	<b>6803</b>	<b>35520</b>

Source:  
CITB Trainee Numbers Survey, 1998 – 1999

## **CITB Research Department Publications**

As a National Training Organisation, CITB is responsible for helping the Construction Industry meet its skill requirements. In order to do this CITB aims to develop a comprehensive understanding of the industry and its future prospects, as well as an analysis of its skill needs and how those needs are to be met. To inform this, CITB maintains a programme of research and labour market information comprising a range of qualitative and quantitative projects. These include surveys of employers, training establishments and trainees as well as evaluations of particular activities in which the Board is involved.

This report, setting out the industry's future skill needs, is a key part of CITB research and labour market information work. The forecasts contained in it are used as a basis for planning training provision, the allocation of resources and the development of new qualifications and other training products. CITB has a policy of publishing its work in this area, to share the information with those partners in training who might benefit from it. This is recognised as a primary role of CITB as a National Training Organisation and is designed to help our industry meet its skill needs and thereby enhance its competitiveness.

Summaries of CITB's Labour Market Information are available on the website: [www.citb.org.uk](http://www.citb.org.uk).

CITB would like to thank the Department for Education and Employment for their help in this work.

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