Construction Skills Network

South West

Labour Market Intelligence 2006

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Contents

Appendices

This document provides labour market intelligence for South West and also includes national UK data. Similar reports have been produced for the other English regions and for Scotland, Wales and Northern Ireland. These reports are all available upon request from ConstructionSkills.

The document replaces the Skills Foresight Report that was previously published annually for the South West. This new Labour Market Intelligence Report links into the work of the Construction Skills Network.

For information on the numbers of people currently entering construction training, as well as workload and recruitment difficulties being experienced by the industry, this report should be read in conjunction with the CITB-ConstructionSkills Trainee Numbers Survey and Employers' Skills Needs Survey Reports.

Future papers and briefings that reconcile the employment forecasts with the results from these other ConstructionSkills surveys will be published through the Network. Similarly, the Network will produce discussion papers that compare the differences between the Construction Skills Network forecasts with those published from other sources.

A glossary of terms used in this document is provided in Appendix I. Supplementary information, including the CITB-ConstructionSkills Employers' Skills Needs Survey and Trainee Numbers Survey, is available on the ConstructionSkills website at:

www.constructionskills.net

Extra resources for members of the Construction Skills Network are available at:

www.constructionskills.net/csn/membersarea

1 The headlines

- Across the UK, total employment in the construction industry is expected to rise by approximately 250,000 to 2.8 million during the forecast period (2006–2010).
- Total employment in the South West construction industry is expected to increase by approximately 4.4% during the forecast period.
- In the South West, the average annual employment requirement for SIC 45* (Construction) and SIC 74.2* (Architects & Technical Engineers) combined is 4,920.
- Over the forecast period (2006–10), the largest Average Annual Requirement in the South West will be for Architects & Technical Engineers, with 1,080 new employees needed annually. Wood Trades and Clerical are the next largest groups, both with Average Annual Requirements of 660. Nationally, the largest requirement will be in Wood Trades (11,090).
- Construction output in the South West has risen by 32.4% since 2000, which equates to a growth of 7.3% in annual average terms. The latest official data (in current prices) presents a steady picture of the current state of the industry, with total work output in the first three quarters of 2005 up 5.7% on the same period of 2004.
- After an expected decline in 2005, construction output in the region is forecast to grow year-on-year to 2010, growing by an annual average rate of 2%.
- The commercial sub-sector is forecast to see the strongest growth in the South West, rising by 5.8% on average each year to 2010. In contrast, the outlook for the private housing sub-sector is less encouraging. Overall, private housing output is likely to be hindered by a slowdown in the housing market and output is expected to fall at an average annual rate of 1.3%.
- Economic growth prospects for the region remain amongst the strongest in the UK, with Gross Value Added (GVA) forecast to rise by 2.8% in 2006, above the national average of 2.6%. This is on the back of strong historical growth in the region, as GVA in the region in 2004 was well above the national average for the fourth consecutive year.

* For definitions and a list of SIC Codes covered by ConstructionSkills see Appendices I and IV

2 Introduction

Background

CITB-ConstructionSkills, CIC and CITB(NI) are working in partnership as the Sector Skills Council (SSC) for Construction. The **Construction Skills Network**, launched in 2005, represents a radical change in the way that ConstructionSkills will collect and produce information on the future employment and training needs of the industry. The model generates forecasts of recruitment and training requirements within the industry for a range of trades and will provide a crucial foundation on which to plan for future skills needs and target investment.

The Construction Skills Network functions at both national and regional levels, comprising a National Group, 12 Observatory groups, a redesigned model and a Technical Reference Group. The Observatories consist of key stakeholders invited from industry, government, education and other SSCs who can contribute local knowledge of the industry and views on training, skills, recruitment, qualifications and policy. An Observatory group currently operates in each of the nine English regions and also in Wales, Scotland and Northern Ireland (note that in the context of the model, Wales, Scotland and Northern Ireland are hereafter referred to as “regions”). The input of the members of the Construction Skills Network is fundamental to the forecasting process and the contributions made to date have been invaluable.

The model approach

The new model approach relies on a combination of primary research and views from the Construction Skills Network to facilitate it. National data were used as the basis for the assumptions that augment the model, which was then adjusted with the assistance of the Observatories and National Group.

Each “region” has a separate model (although all models are inter-related due to labour movements) and, in addition, there is one national UK model that acts as a constraint to the “regional” models and enables best use to be made of the most robust data (which is available at the national level). Each model considers the skilled trades within the industry as well as the professionals.

The models work by forecasting demand and supply of skilled workers separately. The difference between demand and supply forms the employment requirement.

The forecast **total employment** levels are derived from expectations about construction output and productivity. Essentially this is based on the question "How many people will be needed to produce forecast output, given the assumptions made about productivity?".

The **Average Annual Requirement** is a gross requirement which takes into account the dynamic factors that influence all of the flows into and out of construction employment**,** such as movement to and from other industries, migration, sickness, and retirement. Young trainees are not included in the flows. Therefore, the Average Annual Requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output. How the Average Annual Requirement is fulfilled can range from training the indigenous population to recruiting already skilled labour from overseas and will vary across the UK. At present the model does not separately forecast the numbers requiring “top-up” training although data are being collected and these figures should be included in future publications.

Demand is based upon the results of discussion groups comprising industry experts, an econometric model of construction output and a set of integrated models relating to wider “regional” economic performance. The model is dynamic and reflects the general UK economic climate at any point in time. To generate the labour demand, the model makes use of a set of specific statistics for each major type of work (labour coefficients) that determine the employment, by trade, needed to produce the predicted levels of construction output.

The labour supply for each type of trade or profession is based upon the previous years' supply (the total stock of employment) combined with flows into and out of the labour market.

The key leakages (outflows) that need to be considered are:

- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

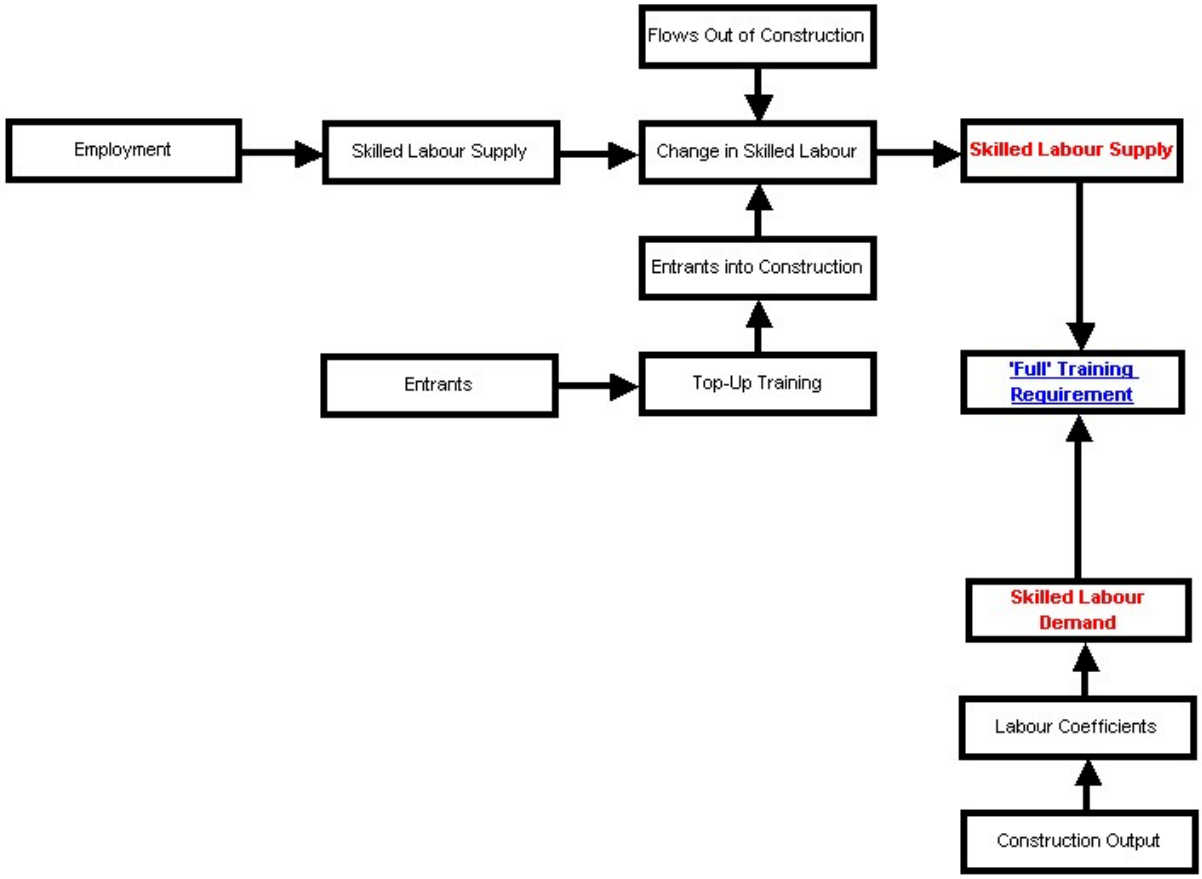
The main reason for outflow is likely to be transfer to other industries.

Flows into the labour market include:

- transfers in from other industries
- international/domestic IN migration
- inflow from temporarily sick and home duties.

New entrants (e.g. young trainees attached to formal training programmes) are not included in the flows of the labour market but are derived from the forecasted Average Annual Requirement for employment. The most significant inflow is likely to be from other industries. A summary of the model components is shown in Figure 1.

Figure 1
Model flowchart



The flows into the market are not merely the counterbalancing figures for the flows out of the market, because those people flowing into the market are likely to require some form of training. It is likely that this training will merely be to top-up their skills, rather than full training. The model recognises two distinct types of training as an input: Top-up training and Full training.

3 The current situation

Economic overview

The South West is the sixth largest regional economy in the UK. In 2005, Gross Value Added (GVA) for the region is estimated at £79bn (in 2002 prices), which amounts to 8% of UK GVA. The service sector accounts for the majority of GVA in the South West estimated at 45%, however, this is still lower than the UK average of 48% of UK GVA.

The South West is home to 8.5% of the UK population and GVA per capita is estimated to be £15,500, which is slightly below the UK average of £17,258.

Economic performance and expectations

The macroeconomic forecasts for the South West are summarised in Table 1.

- The South West economy grew vigorously in 2004 at a rate of 4.6%, the regions strongest performance since 1988. The region outpaced the UK average for a fourth successive year and achieved the second fastest GVA growth of all the UK regions. In 2005, this growth rate slowed to 2.3%. A modest improvement in growth is expected over the next two years reaching 2.6% in 2008. Output in the South West is primarily service-led, although activity in transport & communications, distribution and hotel & catering is expected to accelerate. This is reinforced by the South West's manufacturing, which expands at a rate close to the national average for the sector.

- Job creation is expected to be moderate over the next couple of years, although the region maintains the highest employment rate in the UK estimated at 81.7% in 2005. Throughout the South West the only significant stimulus to jobs is expected to come from the public sector. However, in spite of this, ILO unemployment is expected to continue at a rate close to its current level (3.4%) remaining the UK's lowest over the medium term.

- Real disposable income growth in the South West is forecast to be sustained over the next two years at respective levels of 2.5 and 2.7%. Household spending is slow to recover from the 2005 downturn but the region's long-term outlook remains healthy.

Table 1
Macroeconomic forecasts for the South West

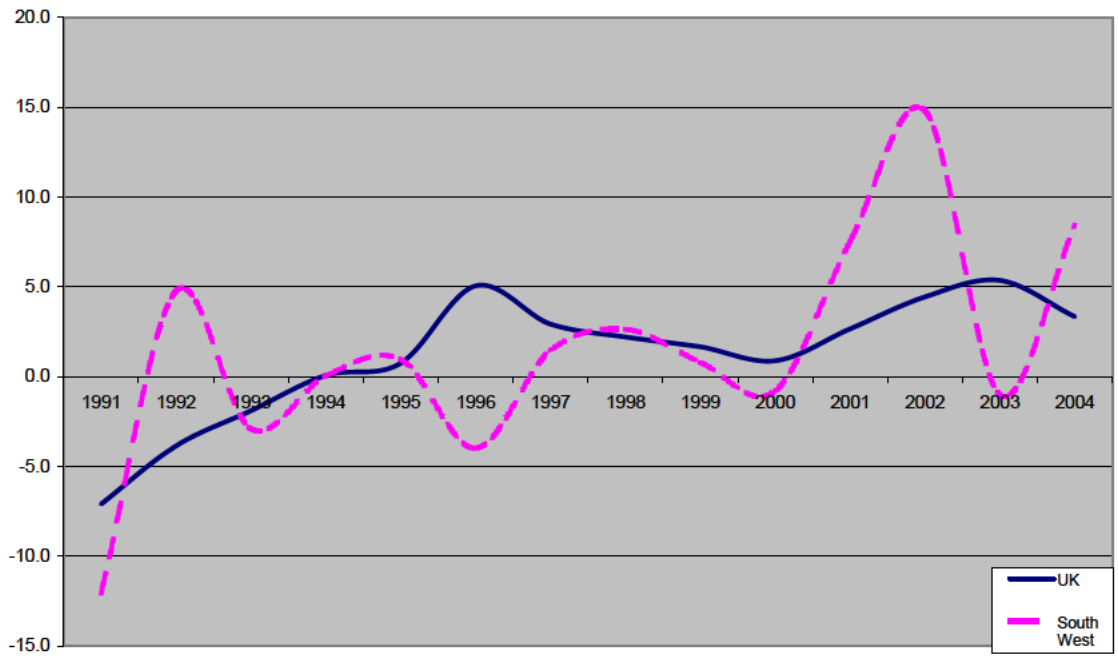
EXPERIAN BUSINESS STRATEGIES FORECASTS FOR THE SOUTH WEST						
						% change (except unemployment)
	2005	2006	2007	2008	2009	2010
Gross Value Added	2.3	2.8	2.7	2.6	2.6	2.6
Total employment	0.5	0.1	0.4	0.4	0.3	0.3
Unemployment rate (ILO)	3.4	3.3	3.3	3.2	3.3	3.4
Real household disposable income	2.4	2.5	2.7	2.6	2.6	2.6

Source: Experian.

Construction output in the South West – Historical overview

- The annual percentage change in construction output in the South West compared to the UK as a whole is shown in Figure 2.
- Total construction output in the South West has recently showed very positive signs with the latest data reporting excellent growth rates, specifically in the last quarters of 2004 and the first quarter of 2005. The growth rate for the first three quarters of 2005 shows a 5.7% growth rate on the same period of 2004.
- High growth in the commercial sub-sector has contributed to the region's strong performance during late 2004 and early 2005. A growth rate of 9.6% over the first three quarters of 2005 on the same period of 2004 has been reported in the South West.
- Private housing also experienced very strong growth in output in the first three quarters of 2005. Consistent quarter-on-quarter growth has occurred in the private housing sub-sector since the start of 2001. The latest figures show a near 30% increase in 2005 over the first three quarters of 2004.
- In contrast, infrastructure and public housing sub-sectors have suffered over the first three quarters of 2005, with output declining by 22% and 26%, respectively. Infrastructure has been in the doldrums for the past two years and public housing's run of strong growth in the early part of the century came to an end in 2004 when output dropped by 2%. The other decline was in the public non-residential sub-sector which contracted by 11%.

Figure 2
Construction output percentage change: UK vs. South West



Notes: Except for Northern Ireland, output data for the English regions, Wales, and Scotland are supplied by the Department of Trade and Industry (DTI) on a current price basis. Thus national deflators produced by the DTI have been used to deflate to a 2000 constant price basis, i.e. the effects of inflation have been stripped out.

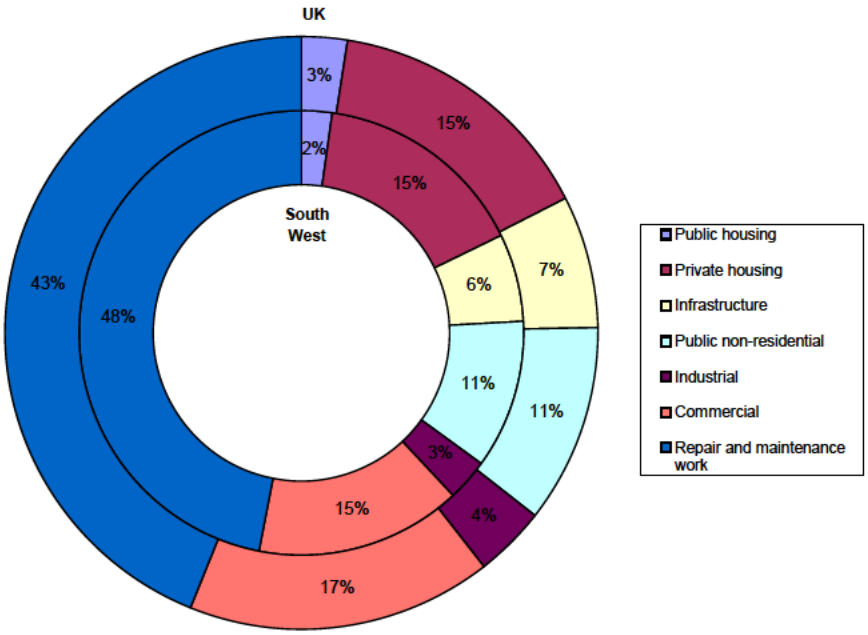
Source: DTI, Department of Finance and Personnel Northern Ireland (DFPNI), Experian.

Note: All figures relating to output in the first three quarters of 2005 are the latest current price values, available from the DTI

Structure of the construction industry

Figure 3 shows the sectoral structure of the South West construction industry when compared with the UK as a whole. In general, the region is very representative of the construction industry of the UK as a whole. A slightly higher repair and maintenance (R&M) component relative to the UK and a smaller share of output in the industrial sub-sector are the two main differences.

Figure 3
Construction output by main sub-sector: UK vs. South West, 2004

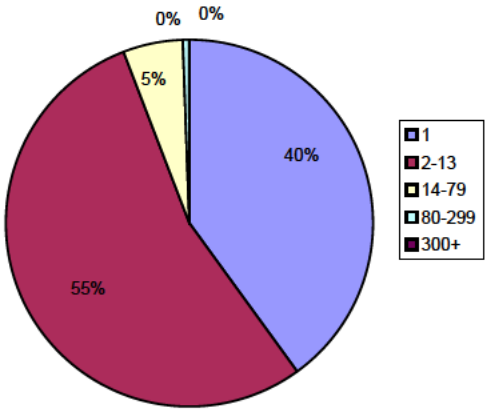


Source: DTI, DFPNI, Experian.

Figure 4 demonstrates that construction companies in the South West are predominantly small. Approximately 94% of all construction firms in the region employ between 1 and 13 people, with the majority (54%) employing between 2 and 13 people. 5.4% of construction firms in the South West employ between 14 and 79 people and only 0.5% of firms in the region employ more than 80 workers.

Figure 4
Percentage of construction companies by size, 2004

Employees	3rd Quarter 2004	%
1	7579	39.9
2-13	10328	54.3
14-79	1018	5.4
80-299	73	0.4
300+	15	0.1
Total	19013	100



* Note: One employee indicates one person working for the company

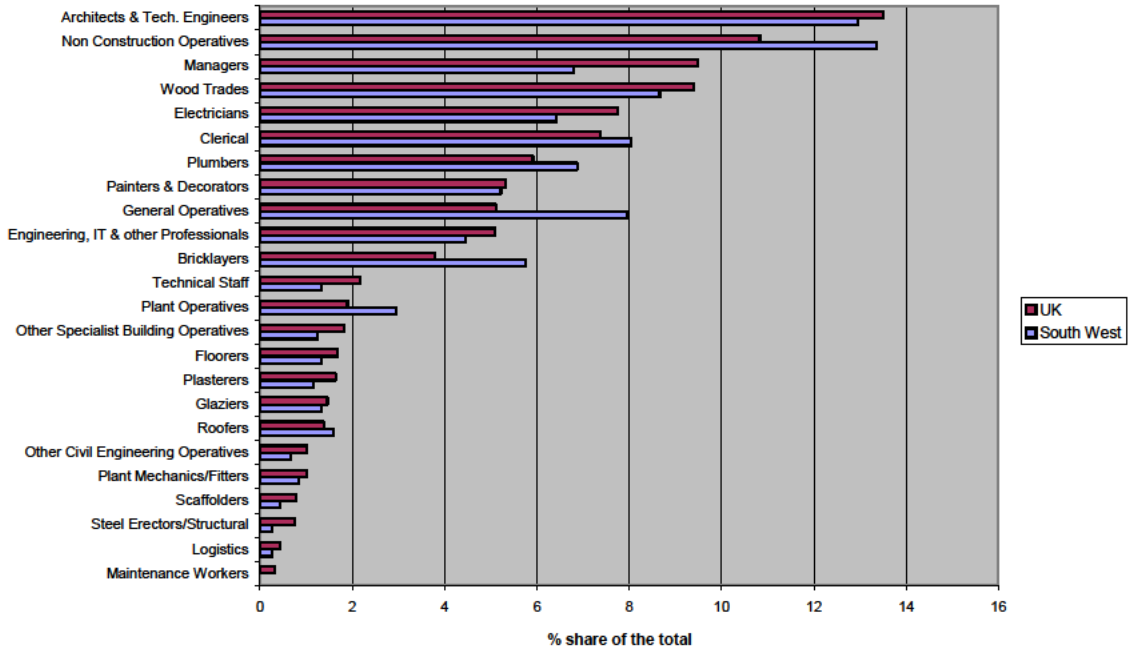
Source: DTI.

Construction employment

Employment by occupation in the South West is fairly similar to that of the UK as a whole (Figure 5). Managers are very much under-represented in the South West compared to the rest of the UK, whilst Architects & Technical Engineers[1], Wood Trades, Electricians[2] and Engineering, IT & Other Professionals are only slightly under-represented. Conversely, Non-construction Operatives, General Operatives and Bricklayers appear to be quite heavily over-represented in the South West when compared to the national picture.

The total share of employment in Maintenance Workers, Logistics, Steel Erectors/Structural and Scaffolders occupations was marginal in both the UK and the South West, accounting for just 1% of all construction employment.

Figure 5
Employment by occupation, UK vs. South West: 2005



Source: Construction Skills Network Model, 2006.

[1] Note: the occupational group termed Architects & Technical Engineers includes all SIC 74.2 occupations
[2] Note: For the ConstructionSkills and SummitSkills sector footprints see Appendix IV

4 The outlook for construction

New construction orders – Historical overview

In this section, comparison is made with GB rather than the UK, owing to the fact that official orders data for Northern Ireland are not available.

Table 2 shows new work orders figures for the main construction sectors in the South West, in current prices. Growth in construction orders in the South West has been positive since 1996 with the exception of 2003 when growth in orders was down 9%. Recovery came in 2004 with orders growth reaching 30%. The latest figures report that orders growth stagnated in 2005. This is mainly due to the fact that orders where very high over the first half of 2005 but a quarter-on-quarter decline meant that overall the growth did not last throughout the year.

Recently the public sub-sector has been volatile. The sub-sector performed strongly from 2000 to 2002, with a growth rate in new construction orders of 68% in 2002. In 2003, new orders declined by 20% in the non-housing sub-sector and by 17% in the housing sector. The sub-sectors were quick to recover in 2004 reporting a healthy 21% growth (public non-housing) and 12% (public housing) in new orders. However, both sub-sectors declined in 2005, by 30%.

Infrastructure performed very strongly in 2002 with a positive 86% increase in new orders, following on from a 26% rise in 2001. This performance was not maintained in 2003 with a decrease in new orders of 37%. The decline continued into 2004 with a 33% decrease on the previous year. However, in 2005 the situation improved substantially and infrastructure orders were up robustly by 44%.

Since 2000, the private housing sub-sector has seen strong growth, with an average annual percentage change of over 21%. Strong growth was also seen in the region in both 2002 and 2004 with increases of 40 to 60% respectively. Between 2000 and 2005, private housing orders have increased over 160% in absolute terms.

Since 2000 the only sub-sector to show a substantial decline is the commercial sub-sector. This sub-sector has seen an average annual decline of 1.9%, with an absolute decline of 4.2% over the period.

Nationally, new work orders rose strongly in 2004, increasing by 15%. With the exception of infrastructure and public non-housing, all sub-sectors saw their orders rise over the year. The rate of increase slowed slightly in 2005 to 11%, due mainly to a sharp slowdown in the growth of the private housing sub-sector. In contrast to 2004, orders in the public non-housing sub-sector increased robustly by 48% in 2005. Commercial orders were similarly buoyant over the year, also rising by 48%. Infrastructure orders failed to recover in 2005 and declined by a further 9%.

Table 2
New work orders for the South West, 1999–2005

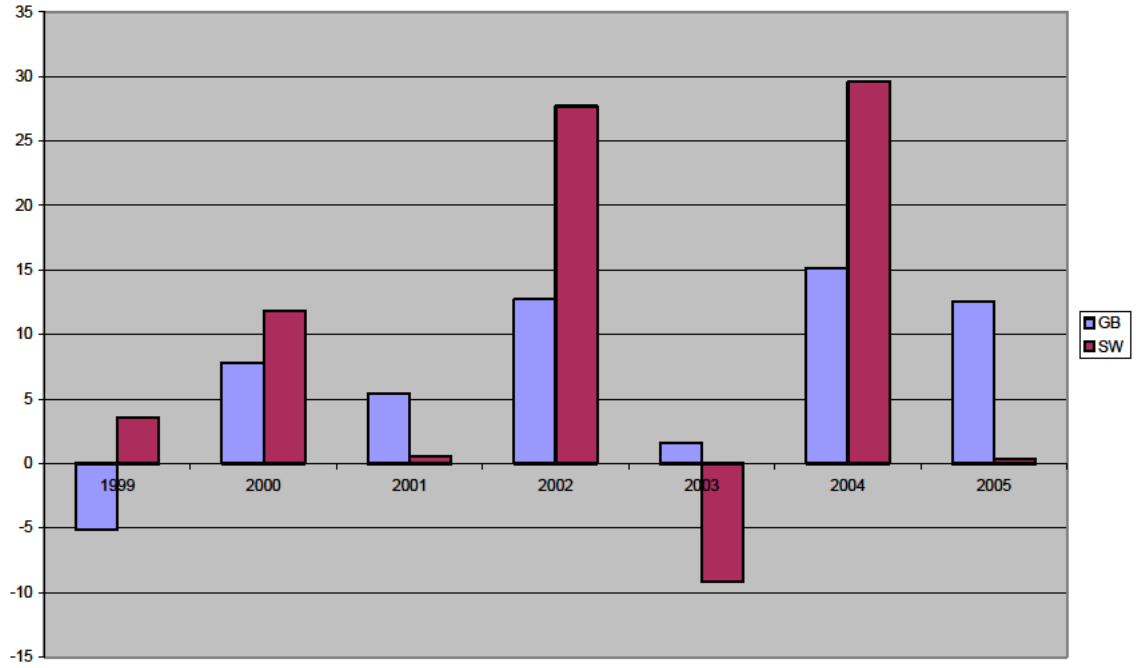
	£ million/*annual % change*						
	1999	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Public housing	53	66	93	156	129	145	102
	-15	*25*	*41*	*68*	*-17*	*12*	*-30*
Private housing	486	555	518	742	812	1280	1462
	-13	*14*	*-7*	*43*	*9*	*58*	*14*
Infrastructure	340	269	339	631	397	267	384
	25	*-21*	*26*	*86*	*-37*	*-33*	*44*
Public non-housing	259	301	391	657	523	633	442
	-25	*16*	*30*	*68*	*-20*	*21*	*-30*
Industrial	262	210	215	113	169	178	239
	40	*-20*	*2*	*-47*	*50*	*5*	*34*
Commercial	660	903	760	659	657	980	865
	17	*37*	*-16*	*-13*	*0*	*49*	*-12*
All new work	**2060**	**2304**	**2316**	**2957**	**2687**	**3482**	**3494**
	4	*12*	*1*	*28*	*-9*	*30*	*0*

Source: DTI.

Figure 6 shows that new orders growth tends to be more volatile in the South West than across GB, although the trend usually follows that of national orders. Between 1999 and 2005, the direction of the change in the South West's construction orders only deviated from the national trend on two occasions, namely in 1999 and 2003. However, the weakness of growth in 2005 and the strength of 2002 and 2004 highlights the region's volatility.

Figure 6
New orders: GB vs. South West, 1999–2005

Annual % change



Source: DTI.

Construction output – forecasts

Real total construction output for the South West is summarised in Table 3.

- The region is expected to perform consistently well over the forecast period, with an average annual growth rate* of 2%, and 2005 is expected to be the only year of decreasing output.
- To 2010, the commercial sub-sector should enjoy the strongest growth with annual average increases forecast at 5.8%. The years 2007 and 2008 are forecast to be particularly strong years. The projection of growth in the housing sectors is less positive with the private housing sub-sector predicted to encounter an annual average decline to 2010. Growth forecast for 2005 and 2006 is likely to be stifled by two years of consecutive decreasing output at the end of the period. In absolute terms, public housing output is expected to rise by 12.6% between 2006 and 2010, at an average annual rate of 1.2%.

* The annual average growth in construction output is not simply an average of the percentages shown in Tables 3 or 4. It is a Compound Average Growth Rate, i.e. it is the rate at which output would grow each year if it increased steadily year-on-year over the forecast period. It is calculated by taking the nth root of the total percentage growth rate, where n is the number of years in the period being considered.

- The R&M sub-sector is expected to decline marginally in 2006, but will recover in 2007 with consistent growth between 1% and 2% predicted in 2008 and onwards. The sub-sector as a whole is expected to grow at an average annual rate of 1.6% with an increase of 6% in absolute terms over the forecast period.
- After 2005, the public non-housing sub-sector is also expected to expand at a healthy rate, with annual average growth expected at about 2.9%, making it the second largest sub-sector in terms of annual growth.
- Output growth in the industrial sub-sector of the South West is expected to be marginal in annual average terms, with just 0.7% growth expected year-on-year. This is due to the strong growth expected in 2005 and 2006 being countered by consecutive years of stagnant output growth for the rest of the forecast period.

Table 3
South West construction output by sub-sector, 2004–2010

	Annual % change						
	2004	2005	2006	2007	2008	2009	2010
Public housing	-9%	-21%	7%	4%	2%	0%	-1%
Private housing	25%	7%	6%	3%	3%	-5%	-6%
Infrastructure	-17%	-26%	-3%	8%	-1%	-1%	-2%
Public non-housing	17%	-14%	5%	2%	1%	4%	4%
Industrial	18%	4%	8%	0%	0%	1%	2%
Commercial	28%	10%	5%	9%	8%	3%	3%
All new work	**15%**	**-2%**	**5%**	**5%**	**4%**	**0%**	**0%**
R&M	2%	0%	-1%	1%	2%	2%	2%
Total Work	**8%**	**-1%**	**2%**	**3%**	**3%**	**1%**	**1%**

Source: Experian.

Table 4 shows the total construction output and employment over the period 1998–2010. Real construction output in the South West is set to be approximately 9% higher in 2010 than in 2004. This is due primarily to the strong output growth estimates forecast in the middle years of the period. Over the same period the forecast increase for the UK output is higher at 14%. Total employment is forecast to increase by just 3% from 2004 to 2010, primarily due to a decline expected at the start of the period and negligible growth in 2006 and 2007.

Table 4
Total construction output and employment, South West: 1998–2010

	Year	Total Output Growth Rate %	Total Output £m 2001 prices	Total Employment (direct and indirect) 000s
Actual	1998	2.6	5466	181
	1999	0.8	5509	196
	2000	-0.8	5465	199
	2001	7.5	5877	215
	2002	14.8	6745	212
	2003	-1.0	6677	217
	2004	8.4	7239	230
Forecast	2005	0.4	7268	224
	2006	2.1	7418	227
	2007	0.6	7466	227
	2008	2.7	7667	232
	2009	1.3	7770	234
	2010	1.5	7887	237

Source: Experian, Construction Skills Network Model, 2006.

5 Construction industry employment requirements

Table 5 and Figure 7 show total employment levels and Average Annual Requirements for the UK, region, and Learning and Skills Council (LSC) areas in order to highlight where the greatest requirements are, and also for the purpose of comparison.

The tables include data relating to Plumbers* and Electricians. As part of SIC 45, Plumbers and Electricians working in contracting are an integral part of the construction process. However, it is recognised by ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC Codes (SIC 45.31 and 45.33). Thus, outputs from the Construction Skills Network Model relating to these two occupations have been passed to SummitSkills for their analysis but have been included here for completeness.

The figures for the Average Annual Requirement are based upon the net balance of inflows and outflows, and cover replacement and expansion of the industry.

The national UK forecasts

The average annual gross employment requirement across the UK over the period 2006 to 2010 is estimated at 87,000, including all occupations in SIC 74.2 and SIC 45 with the exception of Non-construction Operatives (Table 5). Non-construction Operatives captures all of the other elements involved in construction as defined by SIC 74.2 and SIC 45, outside of the main occupations listed in the following charts and tables. The Average Annual Requirement for Non-construction Operatives is not shown because the activities covered by this group are too diverse.

Total employment is forecast to rise by 246,760 to 2.8 million between 2006 and 2010.

- At 11,090 Wood Trades is likely to have the highest Average Annual Requirement going forward (Table 5).
- Three out of the four occupations with the highest Average Annual Requirement from 2006 to 2010 are focused on management and organisation, namely Managers, Architects & Technical Engineers (SIC 74.2) and Clerical (Table 5).
- The Average Annual Requirement for Electricians, Plumbers, Engineering, IT & Other Professionals and Bricklayers is also expected to be high (Table 5).
- At the other end of the scale, the Average Annual Requirement for Scaffolders and Logistics is significantly lower at just 900 and 580, respectively (Table 5).
- Nationally, the professionals working within architectural and engineering activities and related technical consultancy (SIC 74.2) (Architects & Technical Engineers) take the largest share of total employment with an estimated 340,450 employed in 2006, rising to 354,270 by 2010. Second in line is Managers with 235,400 in 2006, increasing to 258,520 by 2010. Particularly strong demand for Wood Trades between 2006 and 2010 should make this the second largest occupation in employment terms by 2010 (Table 5 and Figure 7).
- Whilst the forecasts for an increase in total employment for **Maintenance Workers** are shown in Table 5, the Average Annual Requirement has been excluded. The model is currently forecasting a low requirement for this group compared to other occupations. Further research is being undertaken on the factors influencing this result and the Average Annual Requirement will be published when this work has been completed.

Please note that all of the Average Annual Requirements presented in this section are employment requirements and not necessarily training requirements. Recruiting from other industries with a similar skills base or employing skilled migrant labour could mean the actual training requirement is lower.

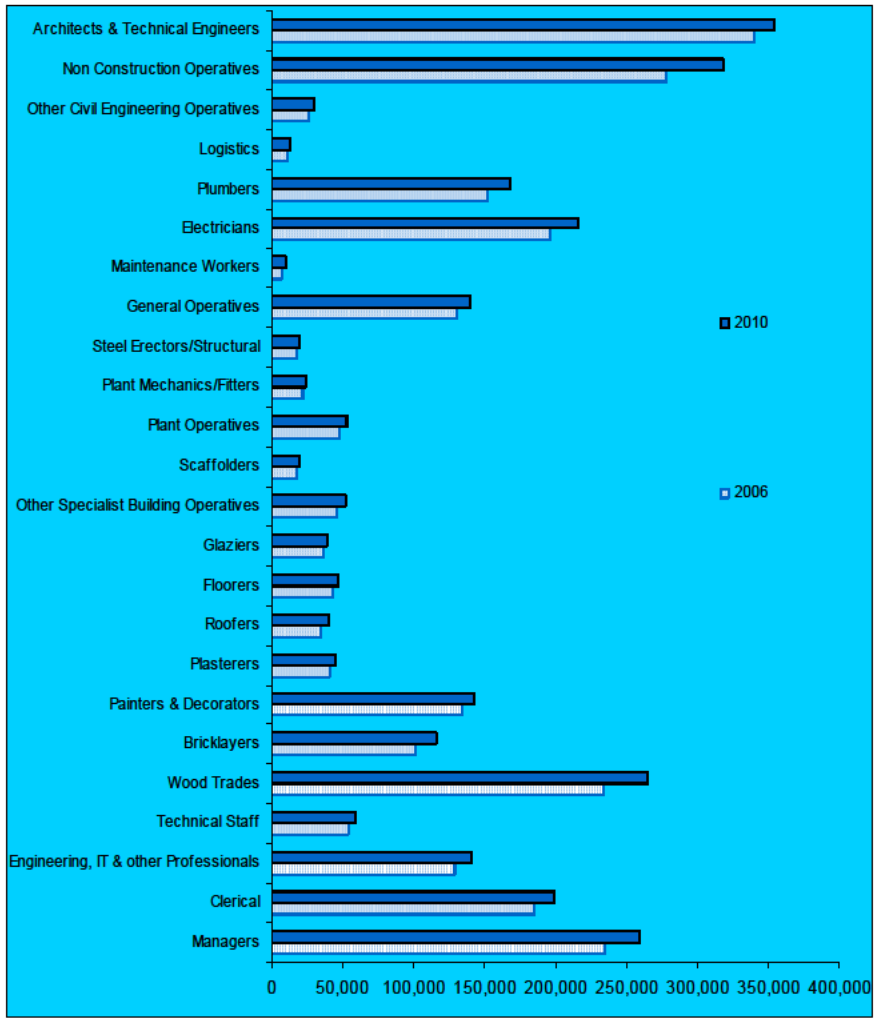
* For ConstructionSkills and SummitSkills sector footprints see Appendix IV

Table 5
UK
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	235,400	258,520	10,530
Clerical	185,270	198,600	8,610
Engineering, IT & other Professionals	129,320	140,890	4,790
Technical Staff	54,280	59,260	3,260
Wood Trades	233,790	265,290	11,090
Bricklayers	101,290	116,220	4,730
Painters & Decorators	133,640	143,430	3,620
Plasterers	41,060	44,930	1,780
Roofers	35,110	39,720	1,750
Floorers	42,670	46,840	1,510
Glaziers	36,660	38,660	990
Other Specialist Building Operatives	46,250	51,520	2,370
Scaffolders	17,700	19,870	900
Plant Operatives	48,200	52,750	1,780
Plant Mechanics/Fitters	22,200	24,060	1,920
Steel Erectors/Structural	17,570	19,760	1,150
General Operatives	130,320	139,950	1,510
Maintenance Workers	6,750	9,550	*
Electricians	196,400	216,240	8,130
Plumbers	152,450	167,810	5,330
Logistics	10,980	12,600	580
Other Civil Engineering Operatives	26,240	30,110	1,390
Non Construction Operatives	277,900	317,810	
Total (SIC 45)	2,181,450	2,414,390	77,720
Architects & Technical Engineers	340,450	354,270	9,280
Total (SIC 45 & 74.2)	2,521,900	2,768,660	87,000

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.
** See text for note on Maintenance Workers*

Figure 7
UK
Total employment by occupation: 2006–2010



Source: Construction Skills Network Model, 2006; Experian.
Note: No bar indicates less than 1,000.

The South West employment forecasts

Table 6 and Figure 8 outline the forecast employment and Average Annual Requirement for 24 occupations within the South West construction industry between 2006 and 2010.

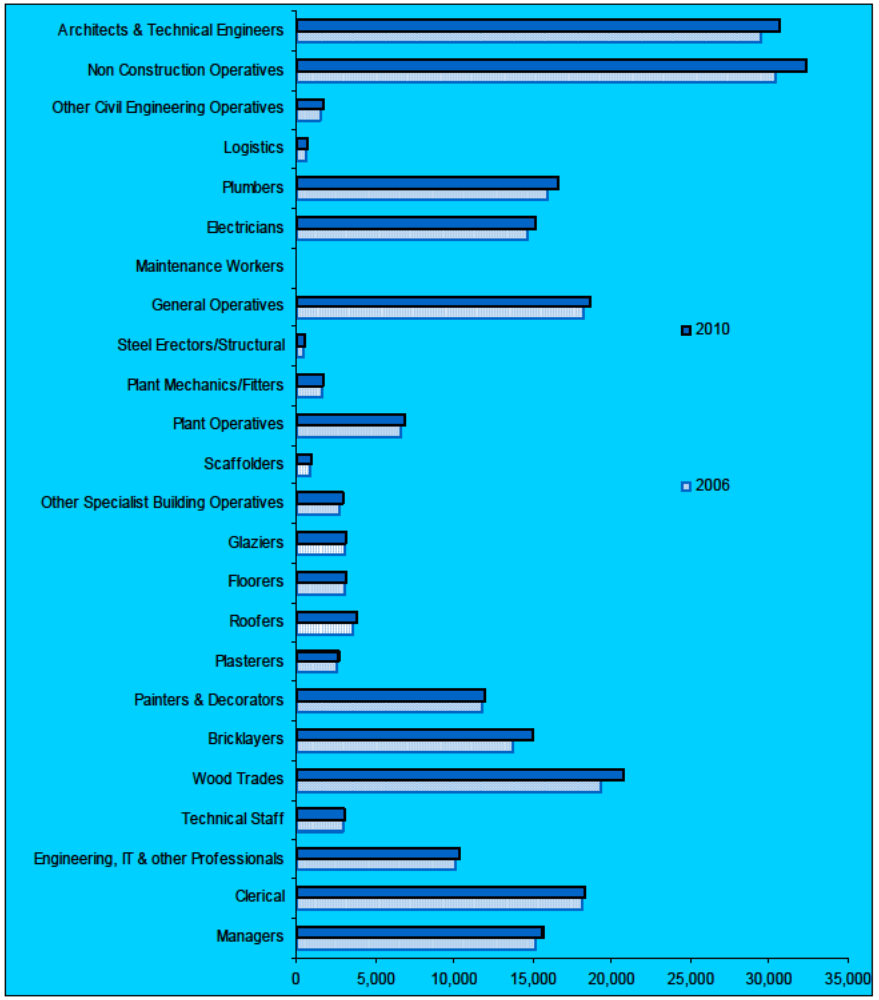
- Total employment in the South West construction industry is forecast to have increased by nearly 10,000 people in 2010 compared to 2006, representing a 4.4% increase over the forecast period.
- Total employment in the South West construction industry will need to increase by an Average Annual Requirement of 4,920 across both SIC 45 and SIC 74.2 in order to meet an estimated 9,920 increase in construction employment in the region between 2006 and 2010 (Table 6).
- The greatest Average Annual Requirement will come from Architects & Technical Engineers with an estimated requirement of 1,080. Employment in Architects & Technical Engineers is expected to rise by 1,200 over the forecast period, the fourth largest occupational rise in the region (Table 6).
- Wood Trades is the occupation likely to have the largest requirement nationally. Both Wood Trades and Clerical have the second largest Average Annual Requirement in the South West (both at 660) (Table 6).
- The Average Annual Requirement for Engineering, IT & Other Professional, Logistics, Other Civil Engineering Operatives, and Other Specialist Building Operatives are the smallest in the region, all requiring an Average Annual Requirement of less than 10 (Table 6).
- The largest occupations in terms of percentage growth in employment within the region are Logistics, Other Civil Engineering Operatives and Bricklayers, all expected to grow by over 8% from 2006 to 2010 (Table 6 and Figure 8).

Table 6
South West
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	15,220	15,700	330
Clerical	18,160	18,370	660
Engineering, IT & other Professionals	10,070	10,340	<10
Technical Staff	2,960	3,060	150
Wood Trades	19,380	20,810	660
Bricklayers	13,810	15,030	530
Painters & Decorators	11,810	11,970	230
Plasterers	2,600	2,670	80
Roofers	3,630	3,890	120
Floorers	3,020	3,150	60
Glaziers	3,090	3,120	40
Other Specialist Building Operatives	2,820	2,970	<10
Scaffolders	930	980	10
Plant Operatives	6,620	6,900	180
Plant Mechanics/Fitters	1,640	1,690	120
Steel Erectors/Structural	490	520	140
General Operatives	18,250	18,640	110
Maintenance Workers	<10	<10	<10
Electricians	14,680	15,190	240
Plumbers	15,960	16,640	180
Logistics	650	710	<10
Other Civil Engineering Operatives	1,560	1,690	<10
Non Construction Operatives	30,400	32,430	
Total (SIC 45)	197,750	206,470	3,840
Architects & Technical Engineers	29,520	30,720	1,080
Total (SIC 45 & 74.2)	227,270	237,190	4,920

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total. Note: No bar indicates less than 1,000.

Figure 8
South West
Total employment by occupation: 2006–2010



Source: Construction Skills Network Model, 2006; Experian.

The following charts give an indication of employment and requirement by occupation for the LSC areas in the South West. The areas and populations being looked at are considerably smaller than those on a regional level and the data available at this sub-regional level are much less robust. Construction employment and future requirements on a sub-regional level are created as ratios of the regional data and as such the results that are presented should be treated with a significant degree of caution. ConstructionSkills is currently working with Observatory members and other partners and stakeholders to review regional research to improve the robustness of these data.

Table 7
Bournemouth, Dorset & Poole
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	2,290	2,400	50
Clerical	2,730	2,800	100
Engineering, IT & other Professionals	1,510	1,580	<10
Technical Staff	450	470	20
Wood Trades	2,910	3,180	100
Bricklayers	2,070	2,290	80
Painters & Decorators	1,770	1,830	40
Plasterers	390	410	10
Roofers	550	590	20
Floorers	450	480	<10
Glaziers	460	480	<10
Other Specialist Building Operatives	420	450	<10
Scaffolders	140	150	<10
Plant Operatives	990	1,050	30
Plant Mechanics/Fitters	250	260	20
Steel Erectors/Structural	70	80	20
General Operatives	2,740	2,850	20
Maintenance Workers	<10	<10	<10
Electricians	2,210	2,320	40
Plumbers	2,400	2,540	30
Logistics	100	110	<10
Other Civil Engineering Operatives	240	260	<10
Non Construction Operatives	4,570	4,950	<10
Total (SIC 45)	29,710	31,530	580
Architects & Technical Engineers	4,430	4,690	160
Total (SIC 45 & 74.2)	34,140	36,220	740

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 8
West of England
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	3,160	3,300	70
Clerical	3,770	3,860	140
Engineering, IT & other Professionals	2,090	2,180	<10
Technical Staff	620	640	30
Wood Trades	4,020	4,380	140
Bricklayers	2,870	3,160	110
Painters & Decorators	2,450	2,520	50
Plasterers	540	560	20
Roofers	750	820	20
Floorers	630	660	10
Glaziers	640	660	<10
Other Specialist Building Operatives	590	620	<10
Scaffolders	190	210	<10
Plant Operatives	1,370	1,450	40
Plant Mechanics/Fitters	340	350	30
Steel Erectors/Structural	100	110	30
General Operatives	3,790	3,920	20
Maintenance Workers	<10	<10	<10
Electricians	3,050	3,200	50
Plumbers	3,310	3,500	40
Logistics	130	150	<10
Other Civil Engineering Operatives	320	360	<10
Non Construction Operatives	6,310	6,820	<10
Total (SIC 45)	41,040	43,430	800
Architects & Technical Engineers	6,130	6,460	230
Total (SIC 45 & 74.2)	47,170	49,890	1,030

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 9
Gloucestershire
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	1,820	1,850	40
Clerical	2,170	2,170	80
Engineering, IT & other Professionals	1,210	1,220	<10
Technical Staff	350	360	20
Wood Trades	2,320	2,460	80
Bricklayers	1,650	1,770	60
Painters & Decorators	1,410	1,410	30
Plasterers	310	320	<10
Roofers	430	460	10
Floorers	360	370	<10
Glaziers	370	370	<10
Other Specialist Building Operatives	340	350	<10
Scaffolders	110	120	<10
Plant Operatives	790	810	20
Plant Mechanics/Fitters	200	200	10
Steel Erectors/Structural	60	60	20
General Operatives	2,190	2,200	10
Maintenance Workers	<10	<10	<10
Electricians	1,760	1,790	30
Plumbers	1,910	1,960	20
Logistics	80	80	<10
Other Civil Engineering Operatives	190	200	<10
Non Construction Operatives	3,640	3,830	<10
Total (SIC 45)	23,670	24,360	430
Architects & Technical Engineers	3,530	3,630	130
Total (SIC 45 & 74.2)	27,200	27,990	560

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 10
Somerset
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	1,390	1,420	30
Clerical	1,660	1,670	60
Engineering, IT & other Professionals	920	940	<10
Technical Staff	270	280	10
Wood Trades	1,770	1,890	60
Bricklayers	1,260	1,360	50
Painters & Decorators	1,080	1,090	20
Plasterers	240	240	<10
Roofers	330	350	10
Floorers	280	290	<10
Glaziers	280	280	<10
Other Specialist Building Operatives	260	270	<10
Scaffolders	90	90	<10
Plant Operatives	610	630	20
Plant Mechanics/Fitters	150	150	10
Steel Erectors/Structural	40	50	10
General Operatives	1,670	1,690	10
Maintenance Workers	<10	<10	<10
Electricians	1,340	1,380	20
Plumbers	1,460	1,510	20
Logistics	60	60	<10
Other Civil Engineering Operatives	140	150	<10
Non Construction Operatives	2,780	2,940	<10
Total (SIC 45)	18,080	18,730	330
Architects & Technical Engineers	2,700	2,790	100
Total (SIC 45 & 74.2)	20,780	21,520	430

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 11
Wiltshire & Swindon
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	1,990	2,000	40
Clerical	2,370	2,340	80
Engineering, IT & other Professionals	1,310	1,320	<10
Technical Staff	390	390	20
Wood Trades	2,530	2,650	80
Bricklayers	1,800	1,910	70
Painters & Decorators	1,540	1,520	30
Plasterers	340	340	<10
Roofers	470	500	20
Floorers	390	400	<10
Glaziers	400	400	<10
Other Specialist Building Operatives	370	380	<10
Scaffolders	120	120	<10
Plant Operatives	860	880	20
Plant Mechanics/Fitters	210	210	20
Steel Erectors/Structural	60	70	20
General Operatives	2,380	2,370	10
Maintenance Workers	<10	<10	<10
Electricians	1,910	1,940	30
Plumbers	2,080	2,120	20
Logistics	80	90	<10
Other Civil Engineering Operatives	200	220	<10
Non Construction Operatives	3,960	4,130	<10
Total (SIC 45)	25,760	26,300	460
Architects & Technical Engineers	3,850	3,910	140
Total (SIC 45 & 74.2)	29,610	30,210	600

Source: Construction Skills Network Model, 2006; Experian
Note: numbers are rounded to the nearest ten and may not sum to the total.

TABLE 12
Cornwall
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	1,620	1,700	40
Clerical	1,930	1,980	70
Engineering, IT & other Professionals	1,070	1,120	<10
Technical Staff	310	330	20
Wood Trades	2,060	2,250	70
Bricklayers	1,470	1,620	60
Painters & Decorators	1,250	1,290	20
Plasterers	280	290	<10
Roofers	390	420	10
Floorers	320	340	<10
Glaziers	330	340	<10
Other Specialist Building Operatives	300	320	<10
Scaffolders	100	110	<10
Plant Operatives	700	750	20
Plant Mechanics/Fitters	170	180	10
Steel Erectors/Structural	50	60	10
General Operatives	1,940	2,010	10
Maintenance Workers	<10	<10	<10
Electricians	1,560	1,640	30
Plumbers	1,700	1,800	20
Logistics	70	80	<10
Other Civil Engineering Operatives	170	180	<10
Non Construction Operatives	3,230	3,500	<10
Total (SIC 45)	21,020	22,310	390
Architects & Technical Engineers	3,140	3,320	120
Total (SIC 45 & 74.2)	24,160	25,630	510

Source: Construction Skills Network Model, 2006; Experian
Note: Numbers are rounded to nearest ten and may not sum to the total

TABLE 13
Devon
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	2,960	3,030	60
Clerical	3,530	3,540	130
Engineering, IT & other Professionals	1,960	2,000	<10
Technical Staff	580	590	30
Wood Trades	3,770	4,010	130
Bricklayers	2,690	2,900	100
Painters & Decorators	2,300	2,310	40
Plasterers	500	520	10
Roofers	710	750	20
Floorers	590	610	10
Glaziers	600	600	<10
Other Specialist Building Operatives	550	570	<10
Scaffolders	180	190	<10
Plant Operatives	1,290	1,330	30
Plant Mechanics/Fitters	320	330	20
Steel Erectors/Structural	100	100	30
General Operatives	3,550	3,600	20
Maintenance Workers	<10	<10	<10
Electricians	2,850	2,930	50
Plumbers	3,100	3,210	30
Logistics	130	140	<10
Other Civil Engineering Operatives	300	330	<10
Non Construction Operatives	5,910	6,260	<10
Total (SIC 45)	38,470	39,850	710
Architects & Technical Engineers	5,740	5,930	210
Total (SIC 45 & 74.2)	44,210	45,780	920

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to nearest ten and may not sum to the total.

Appendix I – Glossary of terms

Demand – construction **output,** vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using DTI and DFP output data. Vacancy data are usually taken from the National Employers Skills Survey (NESS) from the Department for Education and Skills (DfES).

GDP – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income. GDP = **GVA** + taxes on products – subsidies on products

GVA – Gross Value Added – total output minus the value of inputs used in the production process. GVA measures the contribution of the economy as a difference between gross output and intermediate outputs.

Labour coefficients – the labour inputs required for various types of construction activity. The number of workers of each occupation/trade to produce £1m of output in each sub-sector.

LFS – Labour Force Survey – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training, from around 53,000 households each quarter (>100,000 people).

LMI – Labour Market Information – data that are quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.

LMI – Labour Market Intelligence – labour market information analysed.

Macroeconomics – the study of an economy on a national level, including total employment, investment, imports, exports, production and consumption.

ONS – Office for National Statistics – official statistics on economy, population and society at national UK and local level.

Output – total value of all goods and services produced in an economy.

Productivity – output per employee

SIC Codes – Standard Industrial Classification Codes – from the UK Standard Industrial Classification of Economic Activities produced by the **ONS**.

ConstructionSkills is responsible for SIC 45 Construction and SIC 74.2 Architectural and Engineering activities and related technical consultancy.

ConstructionSkills shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. AssetSkills has a peripheral interest in SIC 74.2.

SOC Codes – Standard Occupational Classification Codes

Supply – the total stock of employment in a period of time plus the flows into and out of the labour market. Supply is usually calculated from **LFS** data.

Appendix II – Note on Logistics and Other Civil Engineering Operatives

In this initial run of the Construction Skills Network Model, the categories Logistics and Other Civil Engineering Operatives are derived from the category Other Civil Engineering Operatives to take account of the different employment requirements within each category.

Logistics consists of labour within construction that deals with transportation, handling and storage.

Other Civil Engineering Operatives consists of workers within construction that deals directly with construction work itself, for instance labourers and operatives in road and rail construction. This is a part of ongoing research.

Appendix III – Data sources – Construction Skills Network Model

- Accession Monitoring Report – Home Office
- Analysis of Construction Industry Employment using the British Household Panel Survey – CITB-ConstructionSkills
- British Household Panel Survey – Institute for Social and Economic Research (University of Essex)
- Building the Future: Skills Training in Construction and Building Services Engineering
- Construction Apprentices' Survey – CITB-ConstructionSkills
- Construction Forecasts – Experian
- Construction Skills Foresight Report – CITB-ConstructionSkills
- Construction Skills Report – Learning & Skills Councils (England)
- Construction Statistics Annual – DTI
- Employer Panel Consultation – CITB-ConstructionSkills
- Employers' Skills Needs Survey – CITB-ConstructionSkills
- Foresight, Regional construction forecasts – Experian
- Investment Strategy for Northern Ireland – Strategic Investment Board
- Labour Force Survey – ONS
- International Passenger Survey – ONS
- Measuring the Competitiveness of UK Construction – DTI
- National Employer Skills Survey – LSC, SSDA, & DfES
- Northern Ireland Census of Employment
- Northern Ireland Construction Bulletin – DFPNI
- Occupational Skills Survey 2003 – CITB-ConstructionSkills
- Quarterly output and New orders bulletin – DTI
- Skills Needs Analysis – ConstructionSkills
- Trainee Numbers Survey 2004/05 – CITB-ConstructionSkills
- Travel Trends – ONS
- Workforce Mobility and Skills in the UK Construction Sector – ConstructionSkills, ECITB, SEEDA, DTI

Appendix IV – Footprints for Built Environment SSCs

The table summarises the SIC codes covered by ConstructionSkills.

	SIC Code	Description
ConstructionSkills	45.1	Site preparation
	45.2	Building of complete construction or parts; civil engineering
	45.3	Building installations (except 45.31 and 45.33 which are covered by SummitSkills)
	45.4	Building completion
	45.5	Renting of construction or demolition equipment with operator
	74.2*	Architectural and engineering activities and related technical consultancy

** AssetSkills has a peripheral interest in SIC 74.2*

The sector footprints for the other SSCs covering the Built Environment:

SummitSkills
Footprint **–** Plumbing, Heating, Ventilation, Air Conditioning, Refrigeration and Electrotechnical.
Coverage – Building Services Engineering.

AssetSkills
Footprint – Property Services, Housing, Facilities Management, Cleaning
Coverage – Property, Housing and Land Managers, Chartered Surveyors, Estimators, Valuers, Home Inspectors, Estate Agents and Auctioneers (property and chattels), Caretakers, Mobile and Machine Operatives, Window Cleaners, Road Sweepers, Cleaners, Domestics, Facilities Managers.

Energy & Utility Skills
Footprint – Electricity, Gas (including gas installers), Water and Waste Management
Coverage – Electricity generation and distribution; Gas transmission, distribution and appliance installation and maintenance; Water collection, purification and distribution; Waste water collection and processing; Waste Management.

At national level, ConstructionSkills and SummitSkills are in discussions to determine the most appropriate way of working together on forecasting employment requirements for trades/occupations where there is overlap between the two SSCs.

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