

Construction Skills Network

East Midlands

Labour Market Intelligence
2006

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This document provides labour market intelligence for East Midlands 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 East Midlands. 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 East Midlands construction industry is expected to increase by approximately 11% during the forecast period.
- In the East Midlands the average annual employment requirement for SIC 45* (Construction) is 7,650. A negligible Average Annual Requirement in Architects & Technical Engineers (SIC 74.2*) means that the annual requirement for both SIC 45 and 74.2 combined remains at 7,650.
- The greatest Average Annual Requirement in the region will be for Managers with 2,390 employees needed annually between 2006 and 2010. Nationally, the greatest requirement will come from Wood Trades (11,090), which in the East Midlands has the second highest requirement at 1,080.
- In annual terms, construction output in the East Midlands has been rising continually since 2001 and has recorded near double-digit growth for the past three years. However, the latest official data present a less optimistic picture of the current state of the industry with steadily falling growth figures.
- In the East Midlands, construction output is forecast to grow year-on-year to 2010 but the rate of increase will decline from recent years, growing by an annual average rate of 2.9%. Robust 7.0% growth is forecast for 2007, mainly due to a strong performance in the commercial sub-sector.
- The commercial sub-sector is forecast to see the strongest growth in the region, rising by 7.9% on average each year. In contrast, the outlook for both the public and private housing sub-sectors is less encouraging. Overall, private housing output is likely to be hindered by a slowdown in the housing market while public output is set to be moderate after several buoyant years of growth.
- Growth in economic activity in the East Midlands eased in 2005, although this is projected to be above the UK average for the fifth consecutive year. Growth prospects for the region remain amongst the strongest in the UK, with Gross Value Added (GVA) forecasted to rise by 3.1% in 2006, the best of any English region.

* For definitions and a list of SIC Codes covered by ConstructionSkills see Appendices I & 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 that 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 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.

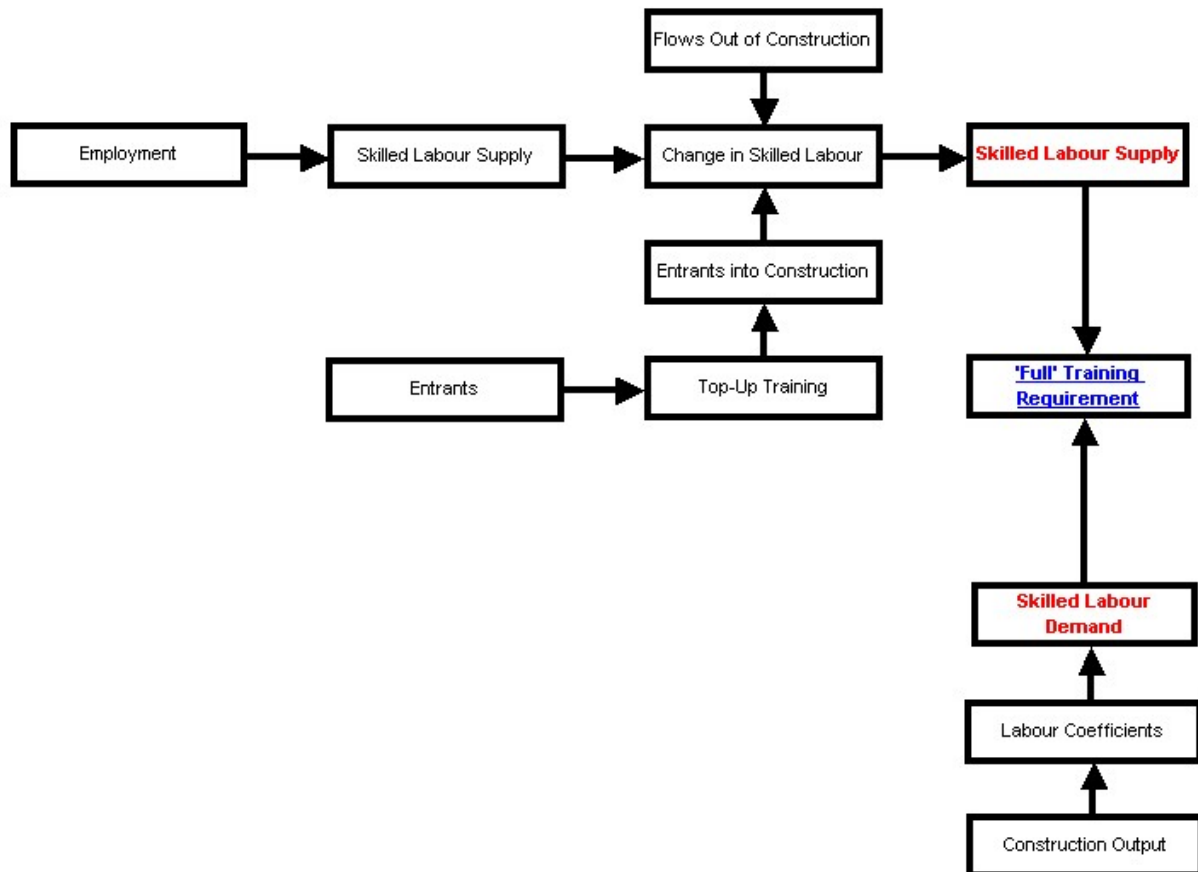
The main reason for outflow is likely to be transfer to other industries.

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

In 2005, GVA in the East Midlands is estimated at £64.3bn (in 2002 prices), accounting for 6.5% of total UK GVA. On a structural basis, the East Midlands economy is more highly geared towards manufacturing than the national average. Over the forecast period transport & communications is expected to be the fastest growing sector, with an annual average growth rate of 7%.

With 4.3m* inhabitants, over 7% of the total UK population live in the East Midlands. GVA per capita, providing an indication of the region's standard of living, is below the UK average, at £15,368 compared to £17,258 nationally. Officially, average gross weekly earnings in Autumn 2005 were estimated at £436 in the East Midlands, compared to £466 nationally.

Economic performance and expectations

Table 1 shows the macroeconomic forecasts for the East Midlands.

- Steady economic expansion seen in the early part of the century continued in 2004 and is likely to continue over the forecast period. GVA rose by 3.4% in 2004, outstripping 3% national growth. This strong performance compared to the UK as a whole is likely to have continued in 2005 and should be a characteristic until at least 2010. To 2010 the East Midlands' economy is forecast to grow by 15%, above an estimated national increase of 14%. Year-on-year growth is forecast to accelerate in 2006 and 2007, although rates will remain subdued compared to recent years. Strong growth in financial and business services, and sustained growth in manufacturing will have an effect, as will expansion in transport and communications.
- Relatively slow recovery is expected in total employment from 2005, following in the wake of decline in 2004. Employment is expected to run in line with the early part of the decade, with a steady decline in manufacturing employment holding back any growth. Total employment is expected to grow at an annual average rate of 0.5% for the remainder of the forecast period.
- Real household disposable income growth in the East Midlands will be maintained at a higher rate than the national average over the forecast period. With reasonably steady year-on-year increases expected, averaging 2.8% a year, the growth in household real income in the East Midlands is among the highest in the country.

Table 1
Macroeconomic forecasts for the East Midlands

EXPERIAN BUSINESS STRATEGIES FORECASTS FOR THE EAST MIDLANDS						
	% change (except unemployment)					
	2005	2006	2007	2008	2009	2010
Gross Value Added	2.6	3.1	3.0	2.7	2.6	2.6
Total employment	1.2	0.3	0.8	0.6	0.4	0.3
Unemployment rate (ILO)	4.5	4.7	4.9	4.8	4.8	4.7
Real household disposable income	1.9	2.8	3.1	2.9	2.8	2.6

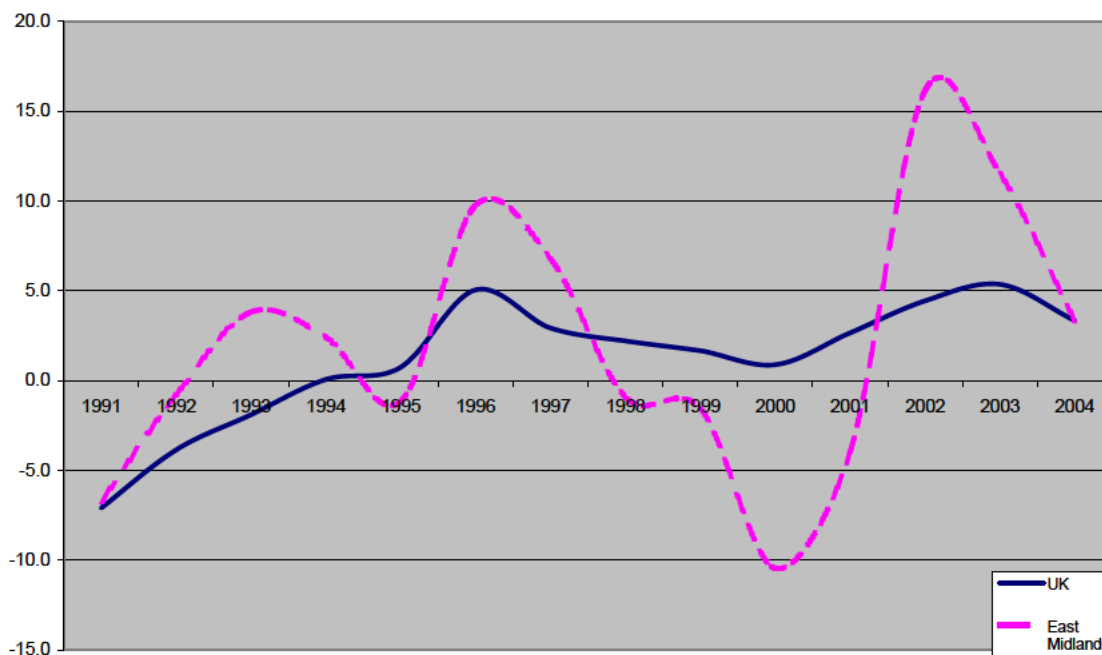
Source: Experian.

* Population figures, in millions, rounded to the nearest one hundred thousand. Taken from the Office for National Statistics. Mid-2004 figures.

Construction output in the East Midlands – Historical overview

- The annual percentage change in real construction output in the East Midlands compared to the UK as a whole is shown in Figure 2. In annual terms, construction output grew at an average rate of 7.3% between 2002 and 2004. On the back of this vigorous growth, the latest official data show that the industry remains strong. The latest three quarter output figures are 15% higher than during the same period of 2004.
- Vast expansion in both of the housing sub-sectors has been a notable characteristic of the past three years. Output figures for the first three quarters of 2005 suggest that this trend is likely to have come to an end, with an estimated decline forecast for private housing over the year as a whole. After rising by 41% in 2004, public housing growth is expected to stabilize at this higher level, with 1% growth expected in 2005.
- For the second year in a row, infrastructure was the weakest sub-sector in the East Midlands, with output forecast to have fallen by 3% in 2005, following on from a 4% drop in 2004.
- Over the first three quarters of 2005 the commercial sub-sector rose consistently. The industrial sub-sector is set to see a second year of strong growth in 2005, with an expected growth rate of 16%, following a 25% rise in 2004.

Figure 2
Construction output percentage change: UK vs. East Midlands



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.

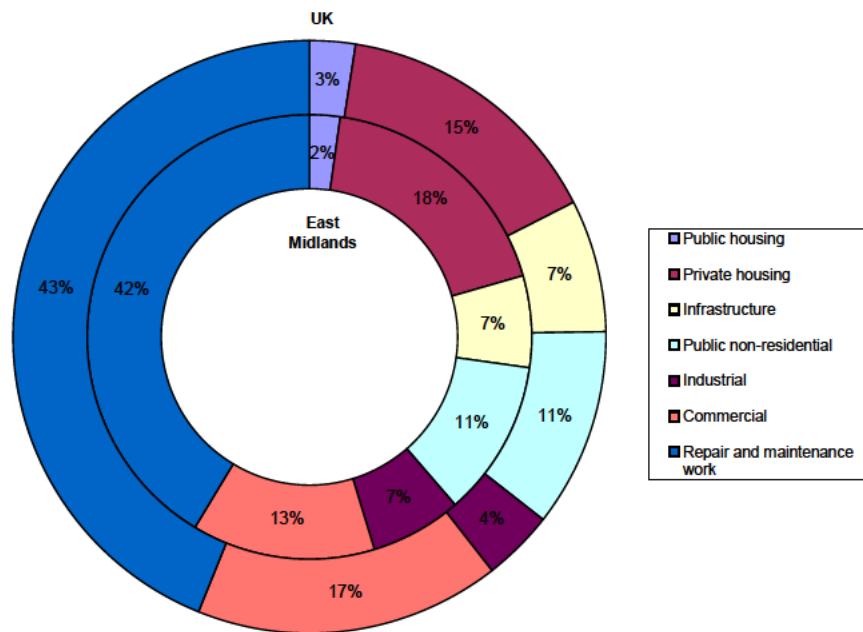
Source: DTI, Department of Finance and Personnel Northern Ireland (DFPNI), Experian.

Note: All figures relating to output in the first three quarters of 2005 are the latest current price values, available from the Department of Trade and Industry.

Structure of the construction industry

Figure 3 shows the sectoral structure of the East Midlands construction industry when compared with the UK as a whole. It does not differ significantly, with public housing, infrastructure, public non-residential and repair & maintenance (R&M) sub-sectors all accounting for a similar proportion of total output. The main differences arise in the commercial, industrial, and private housing sub-sectors. The commercial sub-sector in the East Midlands is proportionally smaller than in the UK as a whole, but with several large PFI health contracts being signed, and with numerous retail opportunities in the pipeline, the commercial sub-sector is likely to expand and output is expected to grow by 7.8% on average each year. After growing substantially over the past three years the private housing sub-sector now accounts for 18% of the region's total construction industry.

Figure 3
Construction output by main sub-sector: UK vs. East Midlands, 2004

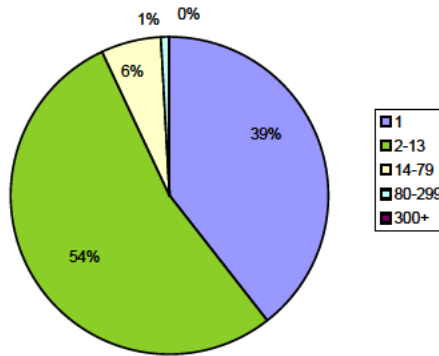


Source: DTI, DFPNI, Experian.

Figure 4 demonstrates that construction companies in the East Midlands are predominantly small, something that is broadly in line with the UK as a whole. Less than 1% of all construction firms in the East Midlands have above 80 employees, with the largest amount of private contractors (54%) having between 2 and 13 employees.

Figure 4
Percentage of construction companies by size, 2004

Employees	3rd Quarter 2004	%
1	5295	39.4
2-13	7216	53.7
14-79	836	6.2
80-299	82	0.6
300+	17	0.1
Total	13446	100



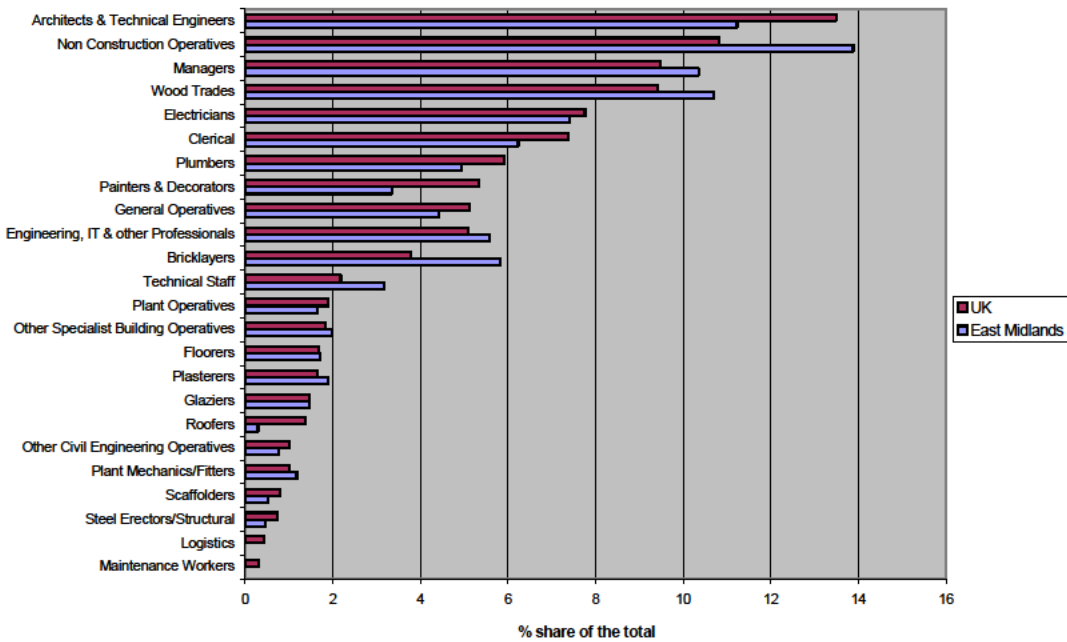
* Note: One employee indicates one person working for the company

Source: DTI.

Construction employment

Figure 5 shows the percentage share of total employment taken up by each occupation within the East Midlands against the UK industry as a whole. In general, the East Midlands occupational group breakdowns follow the national trend. Nationally, Architects & Technical Engineers (which includes all SIC 74.2 occupations) is the largest occupational group, accounting for nearly 14% of the total. In the East Midlands this group accounts for approximately 11%. Non-construction Operatives account for 11% across the UK whereas in the East Midlands this group is nearly 14% of the total. Proportionally less Painters & Decorators, Plumbers*, General Operatives, and Clerical are required in the East Midlands, than in the UK. In contrast, significantly more Bricklayers, Wood Trades, Technical Staff and Managers are required in the region than the UK. The share of employment in Maintenance Workers and Logistics occupations is marginal.

Figure 5
Employment by occupation, UK vs. East Midlands: 2005



Source: Construction Skills Network Model, 2006.

* 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 East Midlands, in current prices. Since the beginning of the century, new work orders in the East Midlands have grown vigorously, with double-digit increases being reported up to 2005. Between 2000 and 2005, new work orders rose by a massive 125%, equating to an annual average growth rate of 18%. New work orders in the East Midlands in 2005 were just over £3.7bn in current prices, the second smallest in value terms of all the English regions. New work orders increased strongly in 2005, up by 24% from 2004.

Since 2000, the public non-housing sub-sector has been the best performing sub-sector in the East Midlands, at least in terms of new orders growth, with an average annual growth rate of 31.6%. Public non-housing orders increased from £138m in 2000 to over £545m in 2005 (in current prices). Elsewhere, robust performance also came from the housing sector, with public and private orders performing well over the past four years, both delivering average annual growth of above 20%.

In 2005, public housing orders increased 11%, compared with 2004. However, public non-housing figures fell in 2005, with a 14% drop on 2004. Other sub-sectors that performed well in 2005 include infrastructure, industrial and commercial sub-sectors, all experiencing vigorous growth on 2004. The commercial sub-sector performed particularly well, with an 89% increase in new orders in 2005.

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 East Midlands, 1999–2005

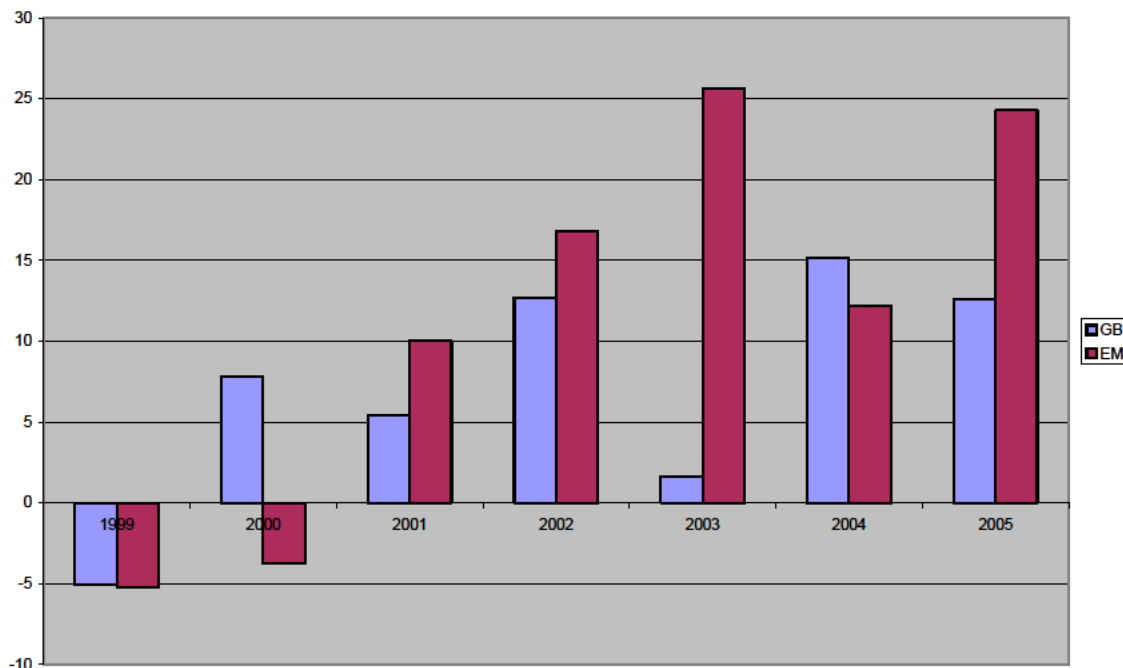
	£ million/annual % change						
	1999	2000	2001	2002	2003	2004	2005
Public housing	41	35	42	43	87	94	104
	24	-15	20	2	102	8	11
Private housing	568	502	539	785	849	1053	1117
	-1	-12	7	46	8	24	6
Infrastructure	229	356	324	229	287	251	329
	-15	55	-9	-29	25	-13	31
Public non-housing	207	138	269	393	458	634	545
	26	-33	95	46	17	38	-14
Industrial	264	237	207	282	218	366	473
	-16	-10	-13	36	-23	68	29
Commercial	432	409	463	422	808	637	1205
	-10	-5	13	-9	91	-21	89
All new work	1741	1676	1844	2154	2706	3035	3772
	-5	-4	10	17	26	12	24

Source: DTI.

Figure 6 shows that there is a longer cyclical pattern to the annual new orders figures, with a clearly visible trend in the growth and decline of new orders in the East Midlands. Compared with GB, the East Midlands was significantly under-performing in 1999 and 2000, with negative growth, where nationally, orders were increasing in 2000. However, in more recent years, the East Midlands consistently outstripped GB, until 2004, when it again fell below the national growth figure, recovering in 2005.

Figure 6
New orders: GB vs. East Midlands, 1999–2005

Annual % change



Source: DTI.

Construction output – forecasts

Real total construction output is summarised in Table 3.

- With strong orders growth over the past few years acting as a good foundation, the region is expected to perform consistently well over the forecast period, with an average annual growth rate of nearly 3%. Official statistics on a regional basis are only available in current prices. Even after allowing for inflation, the region has enjoyed healthy growth since 2002.
- The commercial sub-sector should enjoy the strongest growth to 2010, with annual average increases forecast at 7.9%. 2007 and 2008 are expected to be particularly strong years. The projection of growth in the housing sector is less positive, however, with both the public and private housing sub-sectors actually predicted to encounter an annual average decline to 2010, with the strong growth forecast for 2006 and 2007 being stifled by three years of consecutive declining output. In absolute terms, public housing output is expected to fall by just over 1% between 2006 and 2010, with private housing expected to realise a 5% decline over the same period.

* 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 sectoral outlook for 2006 and 2007 is somewhat improved as heightened output is realised, in all but the industrial sub-sector. Private sector growth will be almost entirely driven by increased output in the commercial sub-sector as work begins on-site on several large commercial projects; the strong orders figures of recent years boosting output.
- The public non-housing sub-sector is also expected to expand at a healthy rate, with annual average growth expected in the region of 3.5%, making it the second largest sub-sector in terms of annual growth. Output growth in the infrastructure sub-sector in the East Midlands 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 2006 and 2007 being countered by an increasing decline for the rest of the forecast period.

Table 3
East Midlands construction output by sub-sector, 2004–2010

	Annual % change						
	2004	2005	2006	2007	2008	2009	2010
Public housing	41%	1%	13%	13%	-2%	-5%	-6%
Private housing	14%	-1%	2%	4%	-1%	-4%	-4%
Infrastructure	-4%	7%	6%	7%	-1%	-1%	-2%
Public non-housing	11%	22%	2%	5%	1%	4%	4%
Industrial	25%	25%	-5%	4%	0%	1%	2%
Commercial	5%	8%	4%	17%	7%	4%	4%
All new work	11%	10%	2%	8%	2%	1%	0%
R&M	-6%	3%	5%	6%	3%	2%	2%
Total Work	3%	7%	4%	7%	2%	1%	1%

Source: Experian.

Table 4 shows the total construction output and employment over the period 1998–2010. Real construction output in the East Midlands is set to be 23.9% higher in 2010 than in 2004, mainly due to strong growth in the commercial and R&M sub-sectors. Over the same period the forecast increase for the UK is lower, at 14%. Total employment is, however, anticipated to grow less strongly with an increase of 14% forecast to 2010.

Table 4
Total construction output and employment, East Midlands: 1998–2010

	Year	Total Output Growth Rate %	Total Output £m 2001 prices	Total Employment (direct and indirect) 000s
Actual	1998	-0.9	5079	149
	1999	-1.6	5000	137
	2000	-10.5	4477	133
	2001	-4.0	4300	161
	2002	16.1	4994	162
	2003	11.5	5569	181
	2004	3.3	5754	171
Forecast	2005	7.0	6156	170
	2006	4.0	6403	176
	2007	7.0	6851	186
	2008	2.0	6988	190
	2009	1.0	7058	192
	2010	1.0	7128	195

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 in 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.

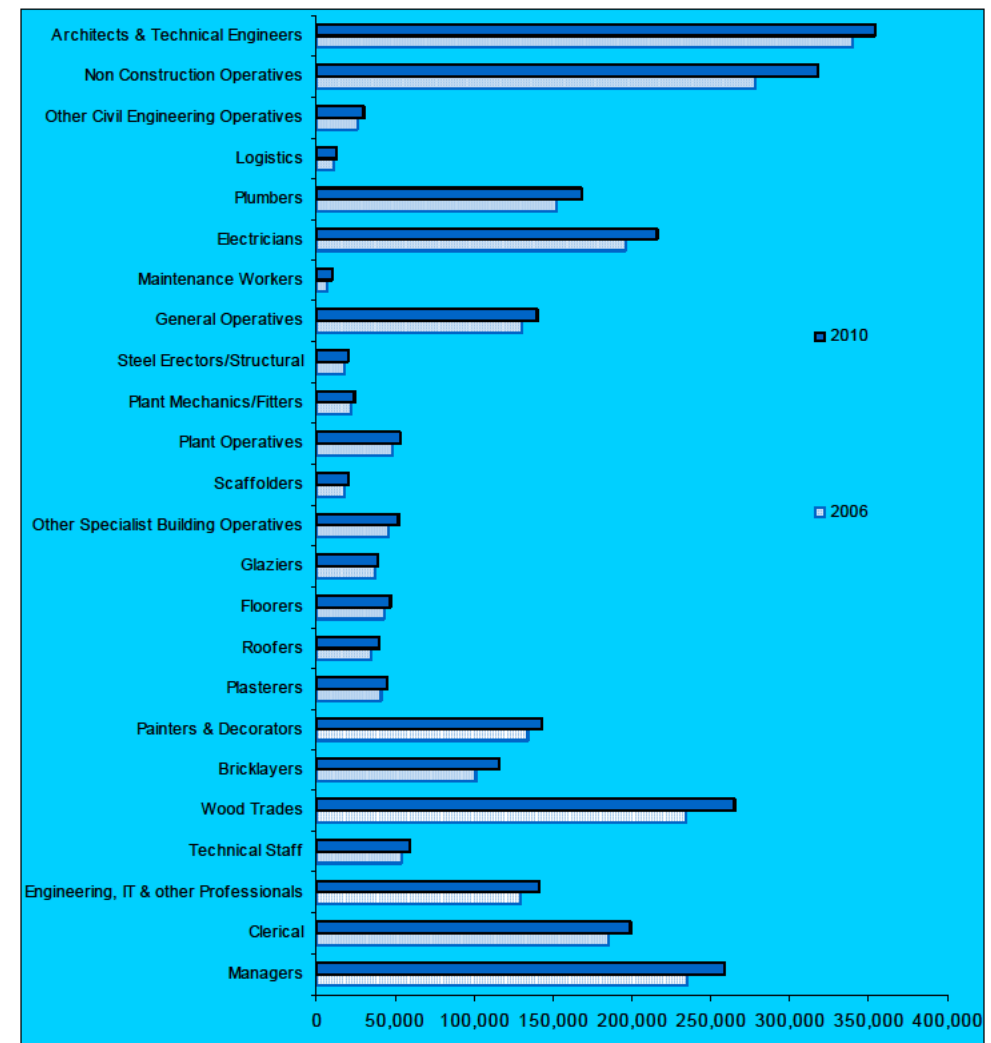
* For the ConstructionSkills and SummitSkills sector footprints see Appendix IV

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 East Midlands employment forecasts

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

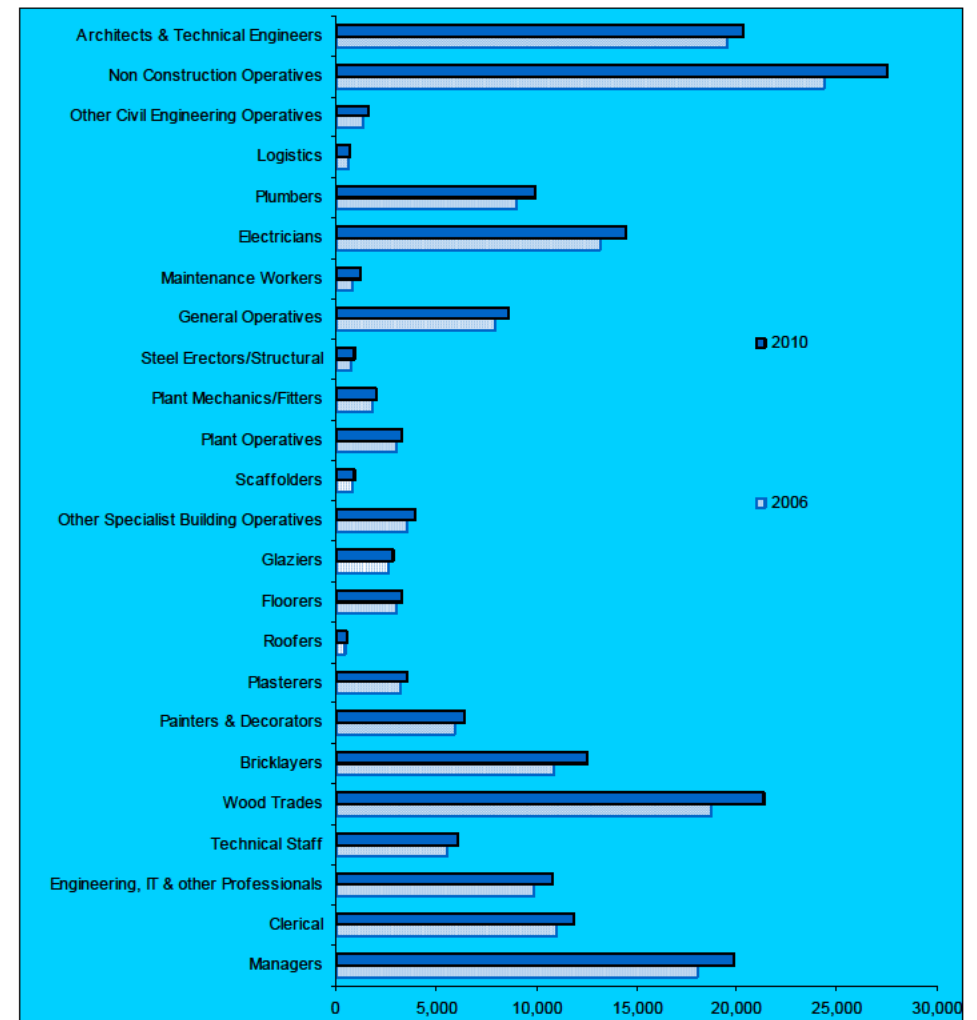
- Total employment in the East Midlands construction industry in 2010 is forecast to be nearly 195,000, an 11% increase from 2006.
- The greatest Average Annual Requirement will come from Managers with an estimated requirement of 2,390. Employment in Managers is forecast to rise by 1,800 over the forecast period (Table 6).
- Wood Trades, the occupation likely to have the largest requirement nationally, has the second largest Average Annual Requirement in the East Midlands at 1,080 (Table 6).
- The Average Annual Requirement for four occupations, namely Roofers, Logistics, Scaffolders and Maintenance Workers is small in the region, with the latter two requiring an Average Annual Requirement of less than 10 (Table 6).
- Contrary to the national trend, the average annual employment requirement for Architects & Technical Engineers (SIC 74.2) in the East Midlands is one of the lowest in the UK.

Table 6
East Midlands
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	18,060	19,860	2,390
Clerical	11,040	11,860	410
Engineering, IT & other Professionals	9,870	10,780	430
Technical Staff	5,540	6,060	460
Wood Trades	18,710	21,370	1,080
Bricklayers	10,850	12,570	570
Painters & Decorators	5,950	6,430	160
Plasterers	3,260	3,560	180
Roofers	490	560	50
Floorers	3,030	3,330	70
Glaziers	2,640	2,830	170
Other Specialist Building Operatives	3,530	3,930	220
Scaffolders	850	940	<10
Plant Operatives	2,990	3,290	110
Plant Mechanics/Fitters	1,820	2,000	180
Steel Erectors/Structural	790	890	60
General Operatives	7,930	8,620	60
Maintenance Workers	850	1,200	<10
Electricians	13,150	14,510	570
Plumbers	8,990	9,960	320
Logistics	590	680	50
Other Civil Engineering Operatives	1,410	1,630	110
Non Construction Operatives	24,400	27,550	
Total (SIC 45)	156,740	174,410	7,650
Architects & Technical Engineers	19,550	20,350	<10
Total (SIC 45 & 74.2)	176,290	194,760	7,650

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

Figure 8
East Midlands
Total employment by occupation: 2006–2010



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

The following charts give an indication of employment and requirement by occupation for the LSC areas of the East Midlands. The areas and populations being looked at are considerably smaller than those reported in Table 6 and Figure 8 for the East Midlands and the data available at this level are less robust. Construction employment and future requirements on this level are created as ratios of the data for the whole of the East Midlands 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
Derbyshire
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	3,910	4,300	520
Clerical	2,390	2,570	90
Engineering, IT & other Professionals	2,140	2,340	90
Technical Staff	1,200	1,310	100
Wood Trades	4,050	4,630	230
Bricklayers	2,350	2,720	120
Painters & Decorators	1,290	1,390	30
Plasterers	700	770	40
Roofers	110	120	<10
Floorers	660	720	20
Glaziers	570	610	40
Other Specialist Building Operatives	760	850	50
Scaffolders	180	200	<10
Plant Operatives	650	710	20
Plant Mechanics/Fitters	390	430	40
Steel Erectors/Structural	170	190	10
General Operatives	1,720	1,870	10
Maintenance Workers	180	260	<10
Electricians	2,840	3,140	120
Plumbers	1,950	2,160	70
Logistics	100	120	10
Other Civil Engineering Operatives	330	380	30
Non Construction Operatives	5,280	5,970	<10
Total (SIC 45)	33,920	37,760	1,640
Architects & Technical Engineers	4,230	4,410	<10
Total (SIC 45 & 74.2)	38,150	42,170	1,640

Source: Construction Skills Network Model, 2006; Experian.

Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 8
Nottinghamshire
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	4,160	4,570	550
Clerical	2,550	2,730	90
Engineering, IT & other Professionals	2,280	2,480	100
Technical Staff	1,280	1,390	110
Wood Trades	4,310	4,920	250
Bricklayers	2,500	2,890	130
Painters & Decorators	1,370	1,480	40
Plasterers	750	820	40
Roofers	110	130	10
Floorers	700	770	20
Glaziers	610	650	40
Other Specialist Building Operatives	810	910	50
Scaffolders	200	220	<10
Plant Operatives	690	760	30
Plant Mechanics/Fitters	420	460	40
Steel Erectors/Structural	180	210	10
General Operatives	1,830	1,980	10
Maintenance Workers	200	280	<10
Electricians	3,030	3,340	130
Plumbers	2,070	2,290	70
Logistics	110	130	10
Other Civil Engineering Operatives	350	410	40
Non Construction Operatives	5,630	6,340	<10
Total (SIC 45)	36,140	40,160	1,770
Architects & Technical Engineers	4,510	4,680	<10
Total (SIC 45 & 74.2)	40,650	44,840	1,770

Source: Construction Skills Network Model, 2006; Experian.

Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 9
Leicestershire
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	3,560	3,830	460
Clerical	2,180	2,290	80
Engineering, IT & other Professionals	1,950	2,080	80
Technical Staff	1,090	1,170	90
Wood Trades	3,690	4,120	210
Bricklayers	2,140	2,420	110
Painters & Decorators	1,170	1,240	30
Plasterers	640	690	40
Roofers	100	110	<10
Floorers	600	640	10
Glaziers	520	550	30
Other Specialist Building Operatives	690	760	40
Scaffolders	170	180	<10
Plant Operatives	590	630	20
Plant Mechanics/Fitters	360	390	30
Steel Erectors/Structural	150	170	10
General Operatives	1,560	1,660	10
Maintenance Workers	170	230	<10
Electricians	2,590	2,790	110
Plumbers	1,770	1,920	60
Logistics	90	110	<10
Other Civil Engineering Operatives	300	340	30
Non Construction Operatives	4,810	5,310	<10
Total (SIC 45)	30,890	33,630	1,450
Architects & Technical Engineers	3,850	3,920	<10
Total (SIC 45 & 74.2)	34,740	37,550	1,450

Source: Construction Skills Network Model, 2006; Experian.

Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 10
Northamptonshire
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	3,430	3,820	460
Clerical	2,100	2,280	80
Engineering, IT & other Professionals	1,870	2,070	80
Technical Staff	1,050	1,170	90
Wood Trades	3,550	4,110	210
Bricklayers	2,060	2,420	110
Painters & Decorators	1,130	1,240	30
Plasterers	620	680	40
Roofers	90	110	<10
Floorers	580	640	10
Glaziers	500	540	30
Other Specialist Building Operatives	670	760	40
Scaffolders	160	180	<10
Plant Operatives	570	630	20
Plant Mechanics/Fitters	350	390	30
Steel Erectors/Structural	150	170	10
General Operatives	1,510	1,660	10
Maintenance Workers	160	230	<10
Electricians	2,500	2,790	110
Plumbers	1,710	1,920	60
Logistics	90	110	<10
Other Civil Engineering Operatives	290	340	30
Non Construction Operatives	4,630	5,300	<10
Total (SIC 45)	29,770	33,560	1,450
Architects & Technical Engineers	3,710	3,910	<10
Total (SIC 45 & 74.2)	33,480	37,470	1,450

Source: Construction Skills Network Model, 2006; Experian.

Note: Numbers are rounded to the nearest ten and may not sum to the total.

Table 11
Lincolnshire & Rutland
Total employment and annual requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	3,100	3,450	410
Clerical	1,900	2,060	70
Engineering, IT & other Professionals	1,700	1,870	70
Technical Staff	950	1,050	80
Wood Trades	3,210	3,710	190
Bricklayers	1,860	2,180	100
Painters & Decorators	1,020	1,120	30
Plasterers	560	620	30
Roofers	80	100	<10
Floorers	520	580	10
Glaziers	450	490	30
Other Specialist Building Operatives	610	680	40
Scaffolders	150	160	<10
Plant Operatives	510	570	20
Plant Mechanics/Fitters	310	350	30
Steel Erectors/Structural	130	160	<10
General Operatives	1,360	1,500	10
Maintenance Workers	150	210	<10
Electricians	2,260	2,520	100
Plumbers	1,540	1,730	60
Logistics	80	100	<10
Other Civil Engineering Operatives	260	310	<10
Non Construction Operatives	4,190	4,790	<10
Total (SIC 45)	26,900	30,310	1,280
Architects & Technical Engineers	3,360	3,540	<10
Total (SIC 45 & 74.2)	30,260	33,850	1,280

Source: Construction Skills Network Model, 2006; Experian.

Note: Numbers are rounded to the 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. $GDP = GVA + \text{taxes on products} - \text{subsidies on products}$

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.

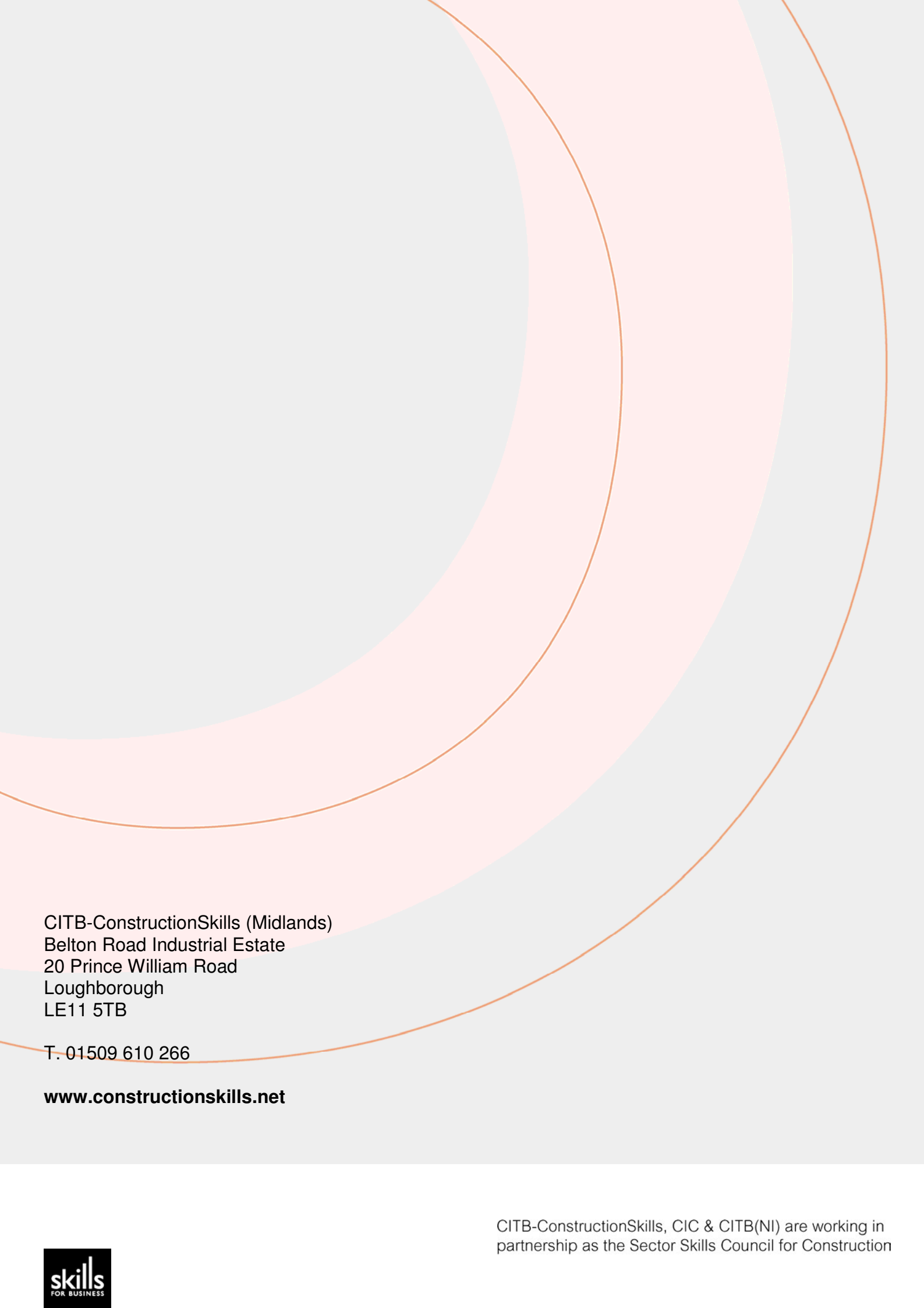
AssetSkills

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, Domestic, 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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CITB-ConstructionSkills, CIC & CITB(NI) are working in partnership as the Sector Skills Council for Construction