2007-2011 Construction Skills Network Labour Market Intelligence

Greater London

Construction Skills Network

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1. Headlines

1. Headlines

1.1 Greater London Economy

- Worth £192bn in 2005 (around 19% of the UK economy), Greater London's economy is forecast to grow at an annual average rate of 3.4% between 2007 and 2011.
- Financial & Business Services was the largest component of Gross Value Added (GVA) in Greater London in 2005, accounting for a substantial 47% of the total.
- Financial & Business Services and Transport & Communications sectors are both expected to grow rapidly over the forecast period.

1.2 Construction Output in Greater London

- Worth £10.8bn in 2005, in 2000 prices, construction in Greater London accounts for around 14% of the UK total.
- Output is forecast to grow at an annual average rate of 4.5% between 2007 and 2011.
- Robust growth is expected in all construction sectors, although work to upgrade London's underground network, extend the Docklands Light Railway and to build the East London Line should ensure infrastructure is one of the strongest sectors.

1.3 Construction Employment in Greater London

- Total construction employment of 304,330 in 2005 in Greater London is forecast to rise by 17% to 356,560 by 2011.
- To meet this demand, after taking account of those entering and leaving the industry, Greater London requires an extra 12,880 workers each year.
- Construction Professionals & Technical Staff has the largest annual requirement, although annual requirements for Wood Trades & Interior Fit-out and Electrical Trades & Installation are also significant.

Source: Experian

Regional Comparison 2007-2011

	Annual Average % Change in Output	Growth in Total Employment	Total Average Annual Requirement
North East	1.3%	4,380	3,300
Yorkshire and Humber	1.9%	16,110	6,090
East Midlands	1.9%	13,340	5,210
East of England	3.5%	36,360	10,160
Greater London	4.5%	42,350	12,880
South East	3.2%	41,390	13,560
South West	1.9%	16,350	6,360
Wales	2.5%	9,080	5,090
West Midlands	1.6%	16,070	6,340
Northern Ireland	4.3%	8,790	2,940
North West	1.4%	19,260	8,830
Scotland	1.5%	17,800	6,830
UK	2.6%	241,280	87,590

Source: CSN, Experian
Footnote: 2 (See Appendix III)

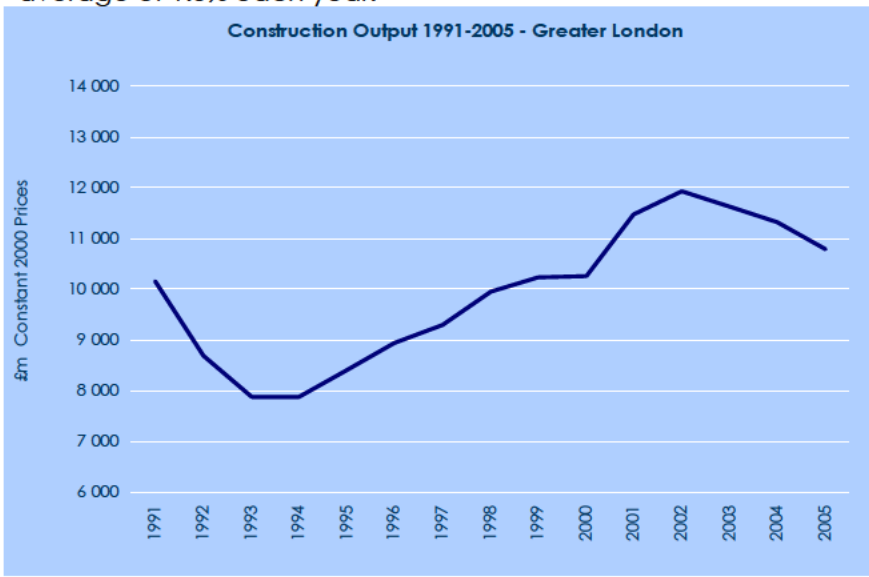
2. The Outlook for Construction in Greater London

2. The Outlook for Construction in Greater London

2.1 Construction Output in Greater London – Overview

In recent years, Greater London's construction industry fell into recession while the industry continued to expand in many other parts of the UK. Prior to this, however, construction output enjoyed a prolonged period of growth, which lasted from 1995 until 2002. During this period output increased by around 42% in real terms (see graph below). Such a robust expansion was fuelled by both new work and repair and maintenance (R&M) activity, with output up by 48% and 33% in the respective sectors.

Comparing annual average growth rates for the periods 1996 to 2000 and 2001 to 2005 highlights the change in the region's performance. Between 1996 and 2000 construction output in Greater London increased by an annual average rate of 3.5%. However, the impact of the offices market collapse in 2002, and the subsequent retrenchment by increasingly risk-averse house builders, meant the 2001 to 2005 period saw output decline by an average of 1.5% each year.



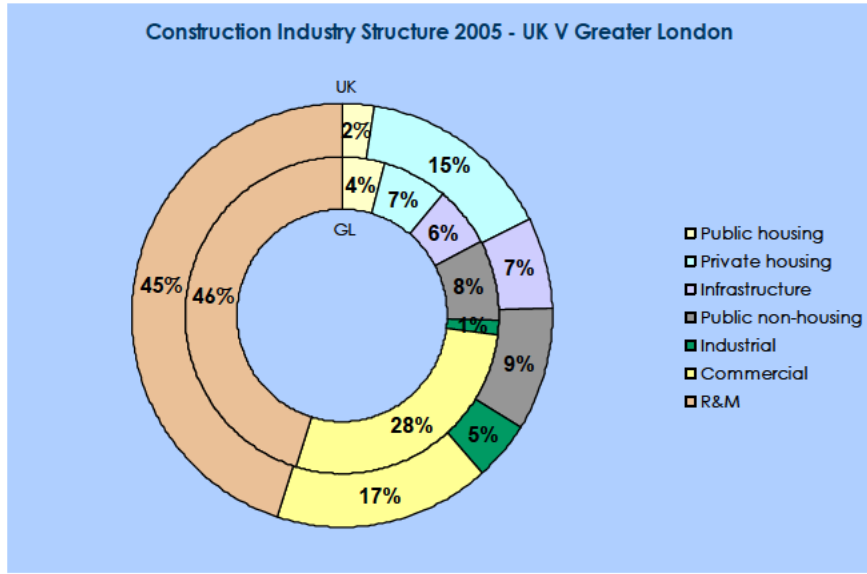
Source: Experian
Footnote: 1 (See Appendix III)

Infrastructure was the main driver of the overall decline between 2001 and 2005. The sector declined by an average of 18.5% each year. However, a 73% leap in output in 2001, as tracks started to be laid for the Channel Tunnel Rail Link, meant that activity began the period at a relatively high level.

2.2 Industry Structure

The obvious difference between Greater London's construction industry and the UK as a whole was the large share taken by the commercial sector in Greater London in 2005. While this fails to be surprising given the concentration of offices and retail outlets in this urban region, it does make London's industry particularly susceptible to economic fluctuations.

As the relative price of housing continued to rise and affordability ratios to worsen, a larger than average public housing sector was again unsurprising. London receives a significant amount of funding for social housing, reflecting the importance of maintaining a supply of affordable housing to the region's



Source: DTI, DFP

2. The Outlook for Construction in Greater London

2.3 Economic Overview

The expected performance of a regional or national economy over the forecast period (2007-2011) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic Structure

In 2005 the Greater London economy was worth £192bn, in 2003 prices, 3% higher than in 2004 and worth around 19% of the UK total.

Financial & Business Services was the largest component of Gross Value Added (GVA) in Greater London, accounting for a substantial 47% of the total (see table below). Public Services made the second largest contribution to GVA, generating around 24% of total economic output.

Over the forecast period (2007-2011) GVA in Greater London is forecast to grow by 14%. A thriving Financial & Business Services sector is likely to be a predominant driver of growth, although the resulting demands this expansion places on the Transport & Communications sector should fuel a respectable increase in its output. To 2011 GVA is forecast to increase by 22% and 19% respectively in these sectors.

2.5 Forward Looking Economic Indicators

Economic growth in Greater London is forecast to exceed the national average by a wide margin and consumers are likely to play an important role in the region's success, particularly post 2008 when economic growth steps up a gear and unemployment begins to fall. Robust year-on-year increases in real household disposable income are expected to be matched, if not exceeded, by rises in household spending (see table below).

Over the forecast period general levels of consumer indebtedness are expected to increase a little, but should remain low compared to the other southern regions. National comparisons, however, are less favourable and Greater London is definitely placed at the upper end of the debt-to-income league table.

In 2005 the Department for Communities and Local Government (DCLG) reported that average house prices in Greater London reached £260,000. Prices are expected to rise by nearly 30% between 2006 and 2011, slightly more rapidly than across the UK as a whole.

Economic Structure - Greater London (£ billion, 2003 prices)

Selected Sectors	Actual	Forecast *Annual % Change, Real Terms*					
	2005	2006	2007	2008	2009	2010	2011
Public Services	46	*2.4*	*2.8*	*2.0*	*2.0*	*1.9*	*2.5*
Financial & Business Services	90	*6.4*	*4.6*	*5.1*	*5.4*	*5.0*	*4.7*
Transport & Communications	19	*3.0*	*6.9*	*5.5*	*4.5*	*3.9*	*3.6*
Manufacturing	8	*-0.2*	*2.1*	*-0.2*	*0.7*	*0.7*	*0.4*
Distribution, Hotels & Catering	26	2.1	1.8	2.0	2.4	2.3	2.0
Total Gross Value Added (GVA)	192	*3.3*	*3.4*	*3.3*	*3.6*	*3.4*	*3.2*

Source: Experian
Footnote: 3 (See Appendix III)

Economic Indicators - Greater London (£ billion, 2003 prices - unless otherwise stated)

	Actual	Forecast *Annual % Change, Real Terms*					
	2005	2006	2007	2008	2009	2010	2011
Real Household Disposable Income	114	*2.6*	*2.8*	*2.8*	*3.2*	*3.2*	*3.3*
Household Spending	101	*2.8*	*2.5*	*2.7*	*3.6*	*3.6*	*3.3*
Debt:Income Ratio	1.6	1.7	1.8	1.8	1.9	1.9	1.9
House Prices (£'000, current prices)	260	*6.5*	*3.5*	*3.9*	*6.3*	*6.8*	*5.9*
LFS Unemployment (millions)	0.27	*15.2*	*2.4*	*1.0*	*-2.9*	*-2.2*	*-0.1*

Source: ONS, DCLG, Experian

2. The Outlook for Construction in Greater London

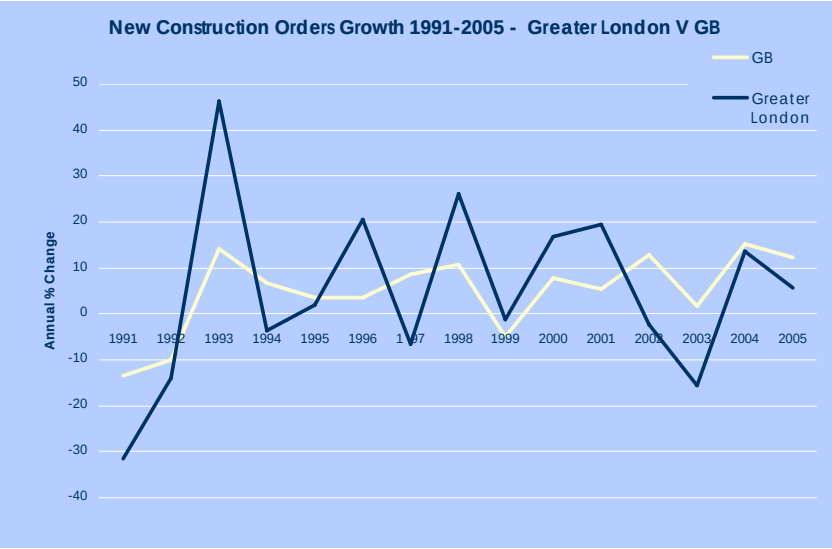
New orders statistics are based on the Department of Trade and Industry's (DTI) monthly survey of construction contractors. The time taken for new orders to feed into output differs from sector to sector and from project to project. As a general rule, industrial orders tend to be converted into output relatively quickly and infrastructure orders relatively slowly, due to project scale and complexity.

2.6 New Construction Orders – Overview

New work orders in Greater London reached £6bn, in current prices, in 2005 after having risen by 14% in 2004 and 6% in 2005 (see chart and table below).

Prior to 2004, orders declined for two consecutive years, although this came on the back of exceptionally strong growth in 2000 and 2001.

The effect that large individual contracts can have on orders statistics is apparent from the volatility shown in the chart below. Resulting output streams tend to be much smoother.



Source: DTI
Footnote: 4 (See Appendix III)

2.7 New Construction Orders – Current Situation

In the first three quarters of 2006 new work orders rose by an exceptionally strong rate of 46% from the first three quarters of 2005. The current buoyancy is mainly due to the strength of the commercial sector. Two seemingly robust years for commercial orders growth paled in comparison to a 64% hike in the first three quarters of 2006.

Substantial increases were not confined to the commercial sector. Private housing orders climbed 32% in the first three quarters and, after recovering tentatively in 2005, infrastructure orders strengthened significantly and were up by 41% on the first three quarters of 2005. Public housing orders rose by 46% in the first nine months of 2006 and industrial orders by 112%.

For the public non-housing sector, however, the first three quarters of 2006 were less rosy. A 4% decline in orders in 2005 failed to be reversed in the first nine months of 2006. Orders slipped by a further 4% from the first three quarters of 2005.

New Work Construction Orders - Greater London (£ million, current prices)

	Actual	Annual % Change				
	2005	2001	2002	2003	2004	2005
Public housing	567	*132.1*	*-14.5*	*2.6*	*76.6*	*17.6*
Private housing	840	*8.3*	*36.4*	*-7.8*	*40.6*	*-15.2*
Infrastructure	607	*103.1*	*-44.4*	*50.1*	*-46.3*	*3.2*
Public non-housing	818	*-36.3*	*74.7*	*-30.1*	*9.0*	*-3.5*
Industrial	149	*54.3*	*-40.7*	*-0.8*	*-1.6*	*19.2*
Commercial	3027	*14.9*	*-3.5*	*-30.9*	*30.7*	*14.4*
Total New Work	6008	*19.6*	*-2.3*	*-15.7*	*13.6*	*5.8*

Source: DTI
Footnote: 4 (See Appendix III)

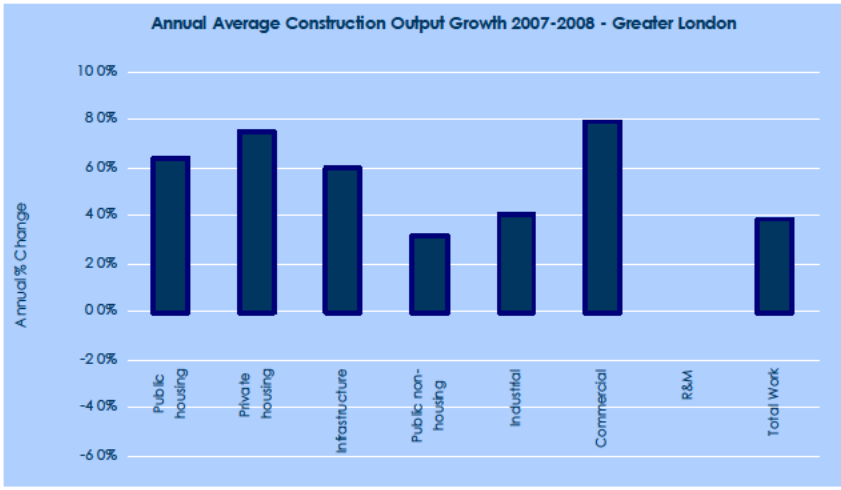
2. The Outlook for Construction in Greater London

2.8 Construction Output – Short-term Forecasts (2006-2008)

Total construction output in Greater London was 12% higher in the first half of 2006 than in the corresponding part of 2005. Regional DTI output statistics are published in current prices, and thus are inclusive of any inflationary effect. At the time of writing DTI output statistics for the first half of 2006 are available.

Construction output in Greater London is forecast to grow relatively robustly over the next few years, at an annual average rate of 3.9% (see chart and table below). Any growth in the short-term is likely to stem from new work projects as post-2006 R&M output is expected to reach a plateau. New work output is forecast to increase at a strong annual average rate of 6.8%.

After such significant growth in commercial orders it isn't surprising that this sector is forecast to be one of the strongest in Greater London in the coming years. The sector got off to a good start in 2006 with current priced output in the first six months rising by 16% to reach £2.2bn. Office developments, including the 'Shard', a £500m tower in London Bridge, will drive output growth in the short-term, as will early output from the redevelopment of St Barts Hospital.



Source: Experian
Footnote: 2 (See Appendix III)

Infrastructure's recovery is also important in the short-term. Current priced infrastructure output rose by 36% in the first half of 2006 and a good outturn is expected for the year as a whole. Following 2006's step-change, the rate of growth is forecast moderate but should remain relatively strong nevertheless.

After private housing's recovery in 2005, output in the sector is set to strengthen further over the short-term. Output is forecast to increase on average by 7.5% in 2007 and 2008 as house builders expand activity in an attempt to capitalise on strong demand. Output rose by 13% in the first six months of 2006. With activity up by 50% in the first half of 2006, the short-term outlook is equally good for the public housing sector.

The first half of 2006, however, proved to be difficult for the public non-housing and industrial sectors, with current priced output down by 4% and 2% respectively during the period. The outlook, however, improves for both sectors post 2006.

Unfortunately the same cannot be said for the R&M sector. The relative ease with which R&M plans can be scaled back or postponed makes the sector vulnerable to government retrenchment.

Construction Output - Greater London (£ million, 2000 prices)

	Actual	Forecast Annual % Change			Annual Average
	2005	2006	2007	2008	2007-2008
Public housing	467	36%	4%	8%	6.4%
Private housing	730	8%	8%	7%	7.5%
Infrastructure	669	21%	5%	7%	6.0%
Public non-housing	886	-6%	2%	5%	3.2%
Industrial	150	-5%	4%	4%	4.1%
Commercial	2 988	7%	6%	10%	7.9%
New Work	5 890	9%	5%	8%	6.8%
R&M	4 883	2%	0%	0%	0.0%
Total Work	10 772	6%	3%	5%	3.9%

Source: DTI, Experian
Footnote: 1 & 2 (See Appendix III)

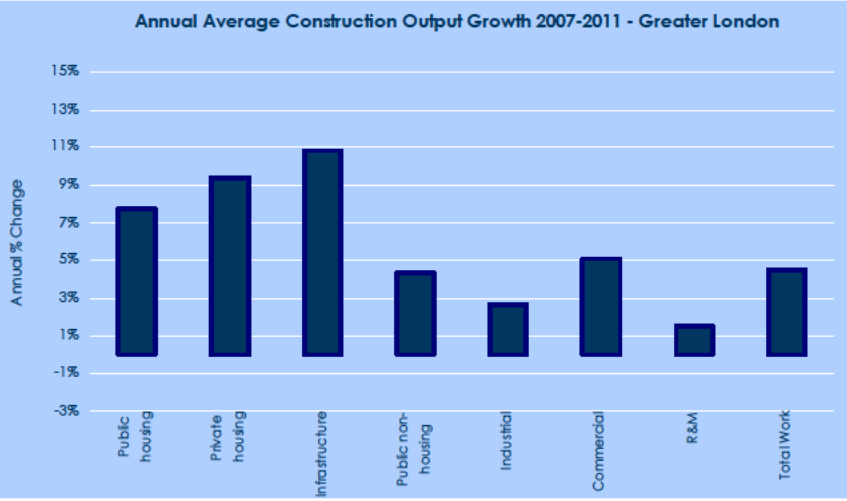
2. The Outlook for Construction in Greater London

2.9 Construction Output – Long-term Forecasts (2007-2011)

Over the longer term, output is forecast to rise by an annual average rate of 4.5%. Growth is expected to be sustained on the new work side through to 2011 and post-2008 prospects improve a little for the R&M sector (see the chart and table below).

In contrast with the recent past, the infrastructure sector is set to dominate Greater London's construction industry over the forecast period (2007-2011). Work to modernise London's underground network will accelerate, while construction activity intensifies on the East London Line. This forecast assumes Crossrail will be delayed until after 2012. However, if Crossrail were to start earlier, infrastructure output in the latter years of the forecast period would be significantly higher.

Greater London's private and public housing sectors are both set to enjoy boom-like conditions between 2007 and 2011 on the back of strong house price inflation, and hence, declining affordability. A high proportion of Housing Corporation funding for social housing and low cost home ownership schemes has traditionally been allocated to London, and this is unlikely to change going forward.



Source: Experian
Footnote: 2 (See Appendix III)

For the commercial sector, the strong outlook for the Financial & Business Services sector inevitably bodes well. A further boost will come from the Olympics.

Education is likely to be the main contributor to any growth in the public non-housing sector to 2011. Four London boroughs were awarded funding in the first wave of the Building Schools for the Future (BSF) programme and while the private sector will be involved, the majority of work will be financed by the government.

For the industrial sector the outlook is relatively subdued. Annual average growth of 2.6% is forecast as more warehouses are built around the region's airports and on the back of a marginal expansion in London's manufacturing industry.

Over the longer term the R&M sector is forecast to see some growth, although relative to the new work sector it will remain subdued. By 2009, after a few years of reasonable economic expansion, government finances should be in a better state of health and attention will turn to the maintenance that was postponed during the earlier part of the forecast period.

Construction Output - Greater London (£ million, 2000 prices)

	Estimate	Forecast Annual % Change					Annual Average
	2006	2007	2008	2009	2010	2011	2007-2011
Public housing	638	4%	8%	10%	9%	4%	7.8%
Private housing	788	8%	7%	13%	12%	6%	9.4%
Infrastructure	813	5%	7%	16%	15%	7%	10.8%
Public non-housing	829	2%	5%	4%	5%	4%	4.4%
Industrial	142	4%	4%	3%	3%	0%	2.6%
Commercial	3 211	6%	10%	2%	4%	5%	5.1%
New Work	6 421	5%	8%	6%	7%	5%	6.6%
R&M	4 990	0%	0%	2%	0%	3%	1.5%
Total Work	11 411	3%	5%	5%	4%	4%	4.5%

Source: Experian
Footnote: 2 (See Appendix III)

3. Construction Employment Forecasts for Greater London

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3.1 Total Construction Employment Forecasts by Occupation

The table, right, presents actual construction employment (SIC 45 and 74.2, see Appendix III) in Greater London for 2005 and forecast total employment in 25 occupations and in the industry as a whole between 2007 to 2011. By 2011 total employment in construction in Greater London is expected to stand at around 356,560, with more than 52,000 people forecast to be employed in the industry than in 2005. 294,700 people will be classified as working in SIC 45 in 2011, with 61,860 falling under the SIC 74.2 umbrella.

The largest occupational groups are forecast to be Construction Professionals & Technical Staff, Wood trades & Interior Fit-out, Non-construction Operatives, Construction Managers and Electrical Trades & Installation, each with employment forecast at over 25,000 in Greater London in 2011.

Bricklayers and Building Envelope Specialists are predicted to see the greatest proportional increases in their total employment, with rises of 22% expected between 2007 and 2011 in both groups. Increases of more than 15% are also forecast for Non-construction Operatives, Scaffolders and Painters & Decorators.

Occupational groupings have been improved following the 2006-2010 model run to incorporate new research and to reflect feedback from Observatory members and other stakeholders. A full breakdown of the 25 occupations is provided in Appendix IV.

The most significant change is that research into the contents of the Construction Trades nec category has enabled us to publish numbers for Building Envelope Specialists, which includes activities like cladding. Wood Trades has become Wood Trades & Interior Fit-out and Architects & Professionals is now based on a more appropriate group of SOC codes and has been renamed Construction Professionals & Technical Staff.

Total Employment by Occupation - Greater London

	Actual	Forecast	
	2005	2007	2011
Senior & Executive Managers	1,320	1,380	1,590
Business Process Managers	10,450	10,580	11,800
Construction Managers	23,520	23,700	26,680
Office-based Staff (excl. Managers)	20,550	20,770	22,950
Other Professionals/Technical Staff & IT	5,500	4,640	5,200
Wood Trades & Interior Fit-out	35,460	35,790	40,520
Bricklayers	10,030	10,590	12,940
Building Envelope Specialists	10,870	11,470	14,010
Painters & Decorators	17,760	18,450	21,330
Plasterers & Dry Liners	4,150	4,230	4,680
Roofers	4,300	4,550	5,060
Floorers	4,950	5,020	5,690
Glaziers	2,780	2,790	3,120
Specialist Building Operatives nec	4,760	4,880	5,530
Scaffolders	1,740	1,800	2,130
Plant Operatives	2,850	3,130	3,510
Plant Mechanics/Fitters	500	570	610
Steel Erectors/Structural	3,200	3,290	3,600
Labourers nec	12,620	13,400	14,110
Electrical Trades & Installation	23,180	23,910	26,630
Plumbing & HVAC Trades	19,090	20,220	22,850
Logistics	2,990	3,210	3,640
Civil Engineering Operatives nec	3,420	3,640	4,170
Non-construction Operatives	27,020	27,220	32,350
Construction Professionals & Technical Staff	51,320	54,980	61,860
Total (SIC 45)	**253,010**	**259,230**	**294,700**
Total (SIC 45 & 74.2)	**304,330**	**314,210**	**356,560**

Source: ONS, CSN, Experian
Footnote: 5 & 6 (See Appendix III)

3. Construction Employment Forecasts for Greater London

3.2 Construction Average Annual Requirements by Occupation

The table, right, outlines the Average Annual Requirement for 25 occupations within Greater London's construction industry between 2007 to 2011. The Average Annual Requirement represents the number of extra workers that are required each year to enable the industry to meet the forecast change in construction output after taking into account those entering and leaving the industry.

To meet forecast demand for construction workers in Greater London it is estimated that 12,880 additional workers will be required each year over the 2007-2011 period.

Construction Professionals & Technical Staff is forecast to have by far the greatest Average Annual Requirement at 2,910. At 1,670 and 1,390 respectively, the requirements for Wood Trades & Interior Fit-out and Electrical Trades & Installation are also significant.

Given that skills are highly transferable, the requirement for Office-based Staff (excl. Managers) is relatively high.

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.

Non-construction Operatives is a diverse occupational group including all of the activities under the SIC45 and 74.2 umbrella that cannot be classified elsewhere, such as Cleaners, Elementary Security Occupations nec and Routine Inspectors & Testers. The skills required in these occupations are highly transferable to other industries and forecasting such movement is hazardous given the lack of robust supportive data. Therefore the Average Annual Requirement for Non-construction Operatives is not published.

Average Annual Requirement by Occupation - Greater London

	2007-2011
Senior & Executive Managers	70
Business Process Managers	550
Construction Managers	940
Office-based Staff (excl. Managers)	770
Other Professionals/Technical Staff & IT	<50
Wood Trades & Interior Fit-out	1,670
Bricklayers	790
Building Envelope Specialists	860
Painters & Decorators	660
Plasterers & Dry Liners	160
Roofers	250
Floorers	100
Glaziers	90
Specialist Building Operatives nec	190
Scaffolders	140
Plant Operatives	110
Plant Mechanics/Fitters	<50
Steel Erectors/Structural	150
Labourers nec	200
Electrical Trades & Installation	1,390
Plumbing & HVAC Trades	620
Logistics	60
Civil Engineering Operatives nec	140
Construction Professionals & Technical Staff	2,910
Total (SIC 45)	**9,970**
Total (SIC 45 & 74.2)	**12,880**

Source: CSN, Experian
Footnote: 5 & 6 (See Appendix III)

4. Regional Comparisons

4. Regional Comparisons

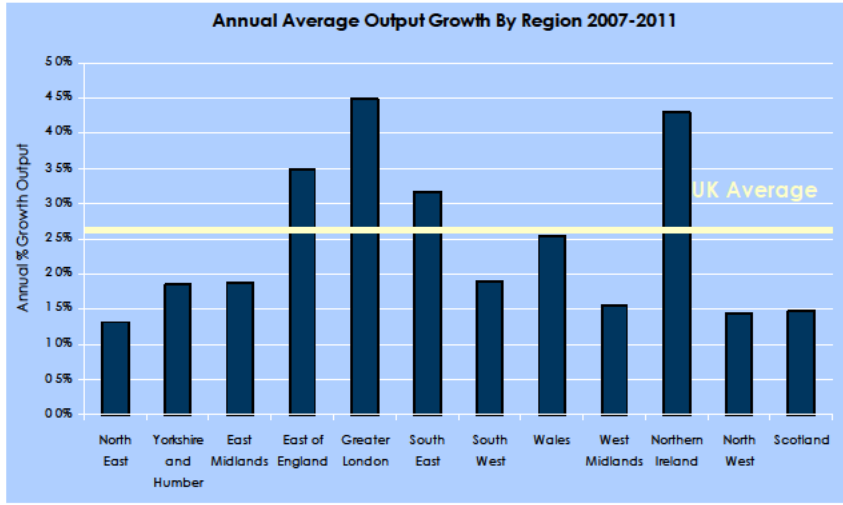
Construction output in Greater London is forecast to see strong year-on-year growth throughout the forecast period as infrastructure recovers and housing and commercial sectors continue to thrive. Prospects are also good for Northern Ireland, the East of England and the South East.

In the early part of this decade the northern half of the UK enjoyed something of a construction boom, with the North West, Yorkshire and Humber and the East Midlands faring especially well. Slower construction output growth is forecast in these regions going forward, although it is important to stress that all English regions, Wales, Northern Ireland and Scotland, are expected to see real output growth between 2007 and 2011.

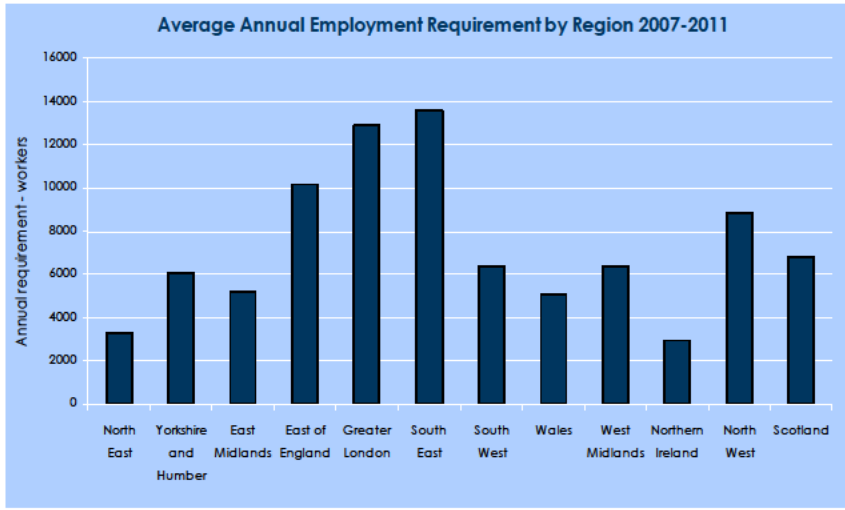
Over the past few years increased activity in the private housing and public non-housing sectors has driven construction output growth across the UK as a whole. While these sectors are expected to grow further over the forecast period (2007-2011), the outlook is much more subdued. The infrastructure and commercial sectors are expected to take the lead in driving the industry forward over the coming years.

Focusing on employment, the south has the greatest need for skilled construction workers between 2007 and 2011. Inward migration into Greater London is expected to be stronger than in the South East, lowering the average annual additional requirement slightly. Nevertheless the average annual requirement in this region still reaches 12,880. The annual average requirements of the South East and East of England both exceed 10,000.

Given that the construction industry of Northern Ireland is relatively small, it is forecast to have the smallest employment requirement each year. However, it is still estimated that total employment will need to rise by an average of 2,940 in order to meet demand.



Source: Experian
Footnote: 2 (See Appendix III)



Source: CSN, Experian

Appendix I - Methodology

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Background

The **Construction Skills Network (CSN)**, launched in 2005, represents a radical change in the way that ConstructionSkills collect and produce information on the future employment and training needs of the industry. CITB-ConstructionSkills, the Construction Industry Council (CIC) and CITB Northern Ireland work in partnership as the Sector Skills Council (SSC) for Construction to produce robust Labour Market Intelligence to provide a foundation on which to plan for future skills needs and to target investment.

The CSN functions at both the national and regional level. It comprises of a National Group, 12 Observatory groups, a forecasting model for each of the regions and countries, and a Technical Reference Group. An Observatory group currently operates in each of the nine English regions and also in Wales, Scotland and Northern Ireland.

Observatory groups currently meet bi-annually and consist of key regional 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.

The National Group also includes representatives from industry, Government, education and other SSCs. This group (which will convene twice in 2007) sets the national scene, effectively forming a backdrop for the Observatories.

At the heart of the CSN is a forecasting model which generates forecasts of employment requirements within the industry for a range of trades.

The model was designed and is managed by Experian under the independent guidance of the Technical Reference Group, comprised of statisticians and modelling experts. It is envisaged that the model will evolve over time as new research is published and modelling techniques improve. Future changes to the model will only be made after consultation with the Technical Reference Group.

The Model Approach

The model approach relies on a combination of primary research and views from the CSN to facilitate it. National data is used as the basis for the assumptions that augment the model, which is then adjusted with the assistance of the Observatories and National Group. Each English region, Wales, Scotland and Northern Ireland 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 individual models and enables best use to be made of the most robust data (which is available at the national level). 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 upon 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 influencing 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.

Appendix I - Methodology

Demand is based upon the results of discussion groups comprising industry experts, a view of construction output and a set of integrated models relating to wider national and 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.

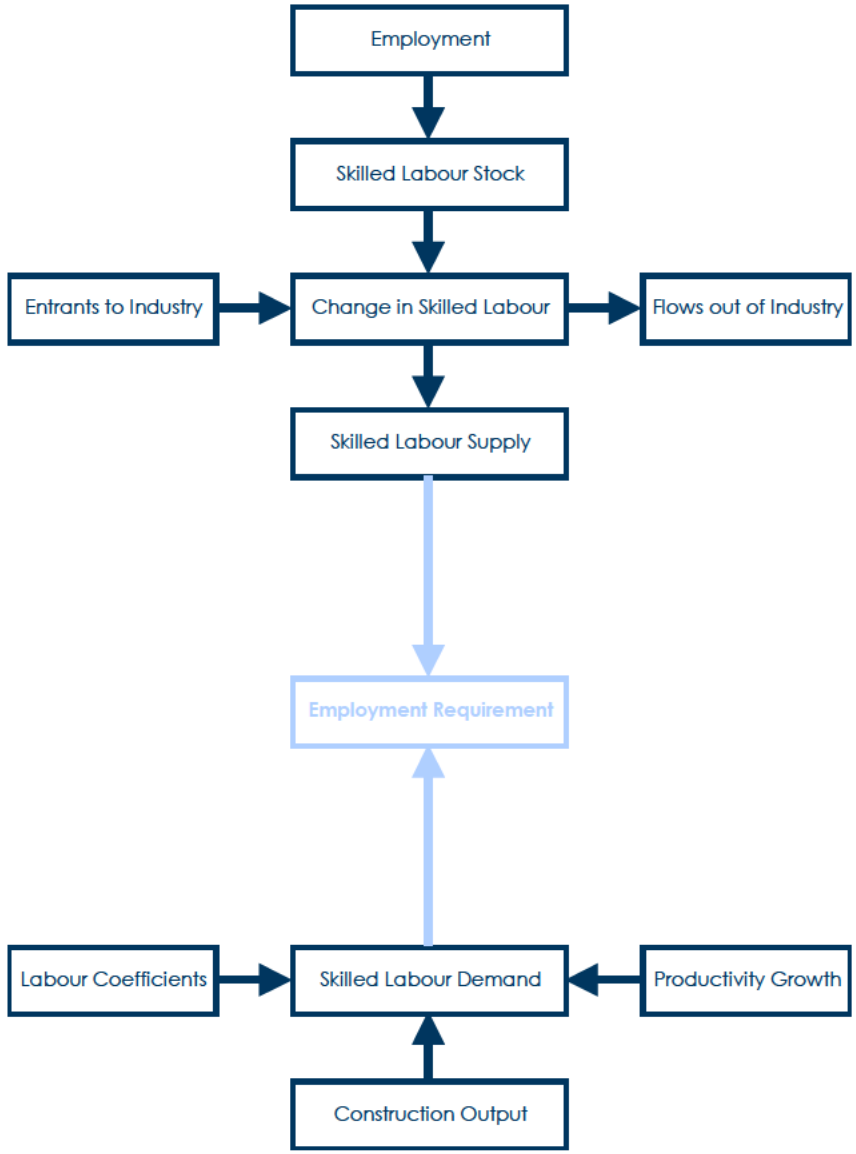
The key leakages (outflows) that need to be considered are:

- 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 is shown in the Flow Chart.



Source: Experian

Appendix II – Glossary of Terms

Appendix II – 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 Department of Trade and Industry (DTI) and the Department of Finance and Personnel Northern Ireland (DFP) output data. Vacancy data are usually taken from the National Employers Skills Survey from the Department for Education and Skills.
- **GDP** – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income. GDP=**GVA** plus taxes on products minus 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.
- **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 part of 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 III – Footnotes & Footprints

Appendix III – Footnotes & Footprints

Footnotes

1. 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.

2. The annual average growth rate of output is a Compound Average Growth Rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.

3. Only selected components of Gross Value Added (GVA) are shown in this table and so do not sum to the total.

4. For New Construction orders comparison is made with GB rather than the UK, owing to the fact that there are no orders data series for Northern Ireland.

5. Employment numbers are rounded to the nearest 10.

6. 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, including SIC 45.31 and 45.33.

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.

Appendix IV – Occupational Groups (SOC codes)

Appendix IV – Occupational Groups

Bricklayers & Building Envelope Specialists
Bricklayers, masons 5312
Construction trades nec (50%) 5319
Labourers in building & woodworking trades (5%) 9121

Roofers
Roofers, roof tilers & slaters 5313

Plumbing & HVAC Trades
Plumbers, heating & ventilating engineers 5314
Pipe fitters 5216
Labourers in building & woodworking trades (6%) 9121
Construction trades nec (5%) 5319

Electrical Trades & Installation
Electricians, electrical fitters 5241
Electrical/electronic engineers nec 5249
Telecommunications engineers 5242
Lines repairers & cable jointers 5243

Civil Engineering Operatives nec
Road construction operatives 8142
Rail construction & maintenance operatives 8143
Quarry workers & related operatives 8123
Construction operatives nec (20%) 8149
Labourers in other construction trades nec 9129

Plant Operatives
Crane Drivers 8221
Plant & machine operatives nec 8129
Transport operatives nec 8219
Fork-lift truck drivers 8222
Mobile machine drivers & operatives nec 8229

Scaffolders
Scaffolders, stagers, riggers 8141

Wood Trades & Interior Fit-out
Carpenters & joiners 5315
Pattern makers 5493
Paper & wood machine operatives 8121
Furniture makers, other craft woodworkers 5492
Labourers in building & woodworking trades (9%) 9121
Construction trades nec (25%) 5319

Steel Erectors/Structural
Steel erectors 5311
Welding trades 5215
Sheet metal workers 5213
Metal plate workers, shipwrights & riveters 5214
Construction trades nec (5%) 5319

Labourers nec
Labourers in building & woodworking trades (80%) 9121

Logistics
Heavy goods vehicle drivers 8211
Van drivers 8212
Packers, bottlers, canners, fillers 9134
Other goods handling & storage occupations nec 9149
Buyers & purchasing officers (50%) 3541
Transport & distribution clerks 4134
Security guards & related occupations 9241

Plant Mechanics/Fitters
Metal working production & maintenance fitters 5223
Precision instrument makers & repairers 5224
Motor mechanics, auto engineers 5231
Labourers in process & plant operations nec 9139

Specialist Building Operatives nec
Construction operatives nec (80%) 8149
Construction trades nec (5%) 5319
Industrial cleaning process occupations 9132

Appendix IV – Occupational Groups

Non-construction Operatives
Metal making & treating process operatives 8117
Process operatives nec 8119
Metal working machine operatives 8125
Water & sewerage plant operatives 8126
Assemblers (vehicle & metal goods) 8132
Routine inspectors & testers 8133
Assemblers & routine operatives nec 8139
Stevedores, dockers & slingers 9141
Hand craft occupations nec 5499
Elementary security occupations nec 9249
Cleaners, domestics 9233
Road sweepers 9232
Gardeners & groundsmen 5113
Caretakers 6232

Construction Professionals & Technical Staff
Civil engineers 2121
Mechanical engineers 2122
Electrical engineers 2123
Chemical engineers 2125
Design & development engineers 2126
Production & process engineers 2127
Planning & quality control engineers 2128
Engineering professional nec 2129
Electrical/electronic technicians 3112
Engineering technicians 3113
Building & civil engineering technicians 3114
Science & engineering technicians nec 3119
Architectural technologists & town planning technicians 3121
Draughtspersons 3122
Quality assurance technicians 3115
Architects 2431
Town planners 2432
Quantity surveyors 2433
Chartered surveyors (not Quantity surveyors) 2434
Electronics engineers 2124
Building inspectors 3123

Painters & Decorators
Painters & decorators 5323
Construction trades nec (5%) 5319

Plasterers & Dry Liners
Plasterers 5321

Glaziers
Glaziers, window fabricators & fitters 5316
Construction trades nec (5%) 5319

Construction Managers
Production, works & maintenance managers 1121
Managers in construction 1122
Quality assurance managers 1141
Transport & distribution managers 1161
Recycling & refuse disposal managers 1235
Managers in mining & energy 1123
Occupational hygienists & safety officers (H&S) 3567
Conservation & environmental protection officers 3551

Other Professionals/Technical Staff & IT
IT operations technicians 3131
IT user support technicians 3132
Estimators, valuers & assessors 3531
Finance & investment analysts/advisers 3534
Taxation experts 3535
Financial & accounting technicians 3537
Vocational & industrial trainers & instructors 3563
Business & related associate professionals nec 3539
Legal associate professionals 3520
Inspectors of factories, utilities & trading standards 3565
Software professionals 2132
IT strategy & planning professionals 2131

Appendix IV – Occupational Groups

Estate agents, auctioneers 3544
Solicitors & lawyers, judges & coroners 2411
Legal professionals nec 2419
Chartered & certified accountants 2421
Management Accountants 2422
Management consultants, actuaries, economists & statisticians 2423

Senior & Executive Managers
Directors & chief executives of major organisations 1112
Senior officials in local government 1113

Business Process Managers
Financial managers & chartered secretaries 1131
Marketing & sales managers 1132
Purchasing managers 1133
Advertising & public relations managers 1134
Personnel, training & industrial relations managers 1135
Office managers 1152
Civil Service executive officers 4111
Property, housing & land managers 1231
Information & communication technology managers 1136
Research & development managers 1137
Customer care managers 1142
Storage & warehouse managers 1162
Security managers 1174
Natural environment & conservation managers 1212
Managers & proprietors in other services nec 1239

Office-based Staff (excl. Managers)
Receptionists 4216
Typists 4217
Sales representatives 3542
Civil Service administrative officers & assistants 4112
Local government clerical officers & assistants 4113
Accounts & wages clerks, book-keepers, other financial clerks 4122
Filing & other records assistants/clerks 4131
Stock control clerks 4133
Database assistants/clerks 4136
Telephonists 4141
Communication operators 4142
General office assistants/clerks 4150
Personal assistants & other secretaries 4215
Sales & retail assistants 7111
Telephone salespersons 7113
Buyers & purchasing officers (50%) 3541
Marketing associate professionals 3543
Personnel & industrial relations officers 3562
Credit controllers 4121
Market research interviewers 4137
Company secretaries (excluding qualified chartered secretaries) 4214
Sales related occupations nec 7129
Call centre agents/operators 7211
Customer care occupations 7212
Elementary office occupations nec 9219

Floorers
Floorers and wall tilers 5322

Appendix V – CSN Website

Appendix V – CSN Website & Contact Details

The CSN Website

The CSN website functions as a gateway into the construction industry.

Co-ordinated by ConstructionSkills, the CSN benefits from the technical expertise of Davis Langdon Management Consulting and Experian. It collates the knowledge and experience of Government; Sector Skills Councils; construction companies; education and training providers; regional agencies; and customers across the UK. In short, it provides a single, clear understanding of the industry's current skills position.

This unique collaboration means the CSN offers, as near as possible, a consensus view of the current and future skills and training needs of the industry.

The Network gives us an authoritative basis on which to plan for recruitment strategies, education and training requirements and funding delivery. The Network forecasts are based on a series of assumptions and trends, to provide a picture of how the industry could look in five years time.

The Network gives construction clients insight into what type of buildings are likely to be constructed, when and where, as well as how to invest training budgets. For contractors and consultants the data can inform the type of building they should design and how best to avoid regional or occupational skills shortages and high labour costs.

Employees and prospective new recruits can use these insights to discover where in the country they are likely to find consistent work, or what trade or profession offers the best career prospects.

The new CSN Website is found here at

http://www.constructionskills.net

The Members' area offers access to a wealth of documentation produced by the CSN Observatories. The CSN Members, wider group members and industry stakeholders can use this area to stay up to date with what is happening within the CSN Workshop cycle.

All the tables in this regional document, and the other regional and national documents, can be found on the website.

ConstructionSkills and partners produce a number of reports which have been based on evidence from various datasets. The Data Store, from the Research section, has been set up to give the CSN Members access to this resource so that they may carry out their own research utilising on this primary data.

For more information about us as a Sector Skills Council visit:

http://www.constructionskills.net

Workshop Essentials allows Members to stay in touch with CSN developments with their diary of upcoming events. This area also includes all feedback documentation from the current round of workshops, giving members all the relevant information they need in one place.

Contact Details

For enquiries relating to the work of the CSN please contact Sandra Lilley, CSN Manager, at

sandra.lilley@citb.co.uk

For further information about the CSN website, or to register your interest in joining the CSN please contact Sally Riley, Researcher, at

sally.riley@citb.co.uk