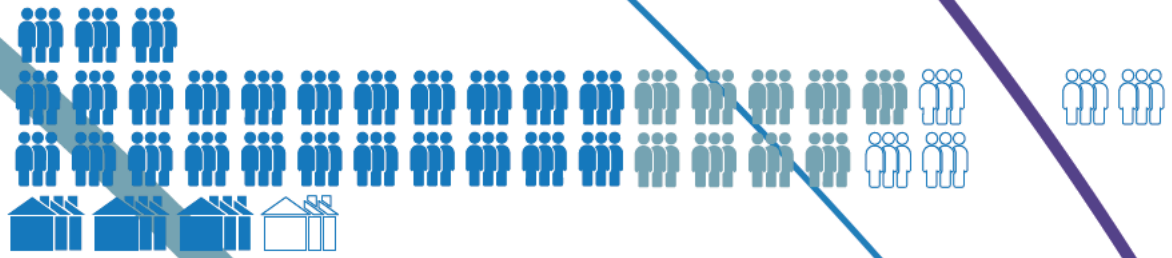

Construction Skills Network West Midlands

LABOUR MARKET INTELLIGENCE 2009–2013

Experian™

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ConstructionSkills is the Sector Skills Council for construction, tasked by Government to ensure the UK's largest industry has the skilled workforce it requires. Working with Government, training providers and employers, it is responsible for ensuring that the industry has enough qualified new entrants and that the existing workforce is fully skilled and qualified, as well as for improving the performance of the industry and the companies within it.

1 Headlines

1.1 The West Midlands economy

- The West Midlands economy was worth £87bn in 2007, equivalent to 8% of the UK total.
- Financial and business services account for 24% of the region's gross value added (GVA), closely followed by public services, slightly less than in the UK as a whole.
- Economic growth in the region is forecast at an annual average rate of 1.4% between 2009 and 2013. Growth is expected to be fastest in financial and business services, followed by transport and communications, and distribution, hotels and catering.

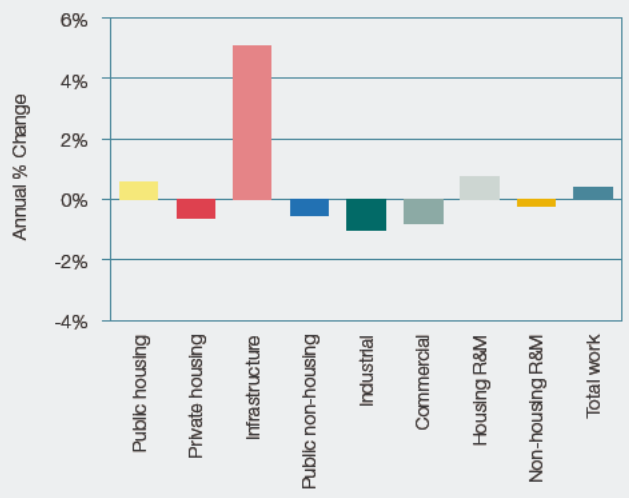
1.2 Construction output in the West Midlands

- Worth £6.6bn in 2007, in 2000 prices, construction output in the West Midlands accounts for around 8% of the UK total.
- Output is forecast to grow at an annual average rate of just 0.2% between 2009 and 2013, slightly below the national average.
- Infrastructure is expected to see very strong growth over the forecast period, reflecting the redevelopment of Birmingham New Street station among other projects.

1.3 Construction employment in the West Midlands

- Total construction employment of 226,480 in 2007 in the West Midlands is forecast to fall to 215,140 in 2009, before rising to 219,070 in 2013.
- To meet this demand, after taking into account those entering the industry other than from training and those leaving, 3,620 new workers will be required to join the industry each year.
- The largest annual recruitment requirement (ARR) is expected to be for wood trades and interior fit-out closely followed by electrical trades and installation, and construction managers.

Annual average construction output growth 2009-2013 - West Midlands



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

Regional comparison 2009-2013

	Annual average % change in output	Growth in total employment	Total ARR
North East	0.5%	5,620	2,010
Yorkshire and Humber	0.0%	2,860	1,390
East Midlands	0.8%	6,220	1,980
East of England	0.9%	10,570	2,890
Greater London	0.8%	12,110	6,030
South East	0.5%	13,290	5,690
South West	-0.2%	-20	1,450
Wales	0.6%	4,940	2,330
West Midlands	0.2%	3,930	3,620
Northern Ireland	1.6%	3,030	900
North West	0.2%	6,040	4,780
Scotland	0.6%	5,480	3,960
UK	**0.5%**	**74,070**	**37,030**

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

The West Midlands economy was worth

£87bn in 2007,

equivalent to 8% of the UK total

2 The outlook for construction in the West Midlands

2.1 Construction output in the West Midlands – overview

Construction output in the West Midlands was £6.6bn, in 2000 prices, in 2007, down 3% from the previous year. Within this total, new work increased by 6% to £3.7bn, but repair and maintenance (R&M) was down by 12% from the previous year.

The region's construction industry has seen a mixed performance in recent years. Following a strong showing in the early years of the decade, output declined slightly in 2003, before rebounding strongly in 2004. However, since 2004, the region has endured a fall of 4% in real terms. A contraction in R&M work has been the main reason for this decline, with output falling 13% between 2004 and 2007. New work, on the other hand, rose 3% during the same period.

The strongest performance across the sectors was in public housing, which saw output increase by 42% between 2006 and 2007. Substantial growth in the commercial sector also contributed to a rise in new work output over the period.

Private housing, in contrast, was by far the weakest sector, as output declined 13% between 2006 and 2007.

Output is forecast to grow at an annual average rate of just 0.2% between 2009 and 2013, slightly below the national average of 0.5%

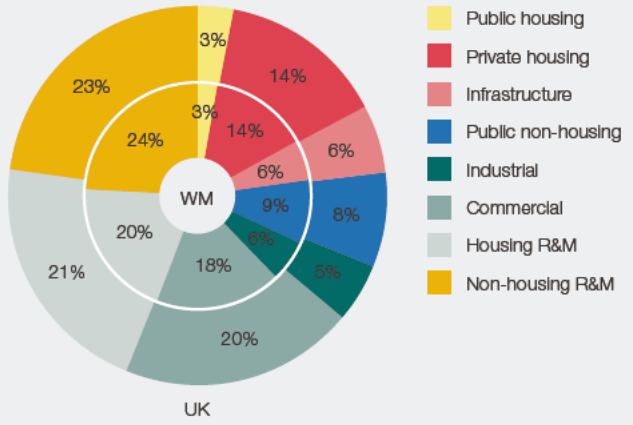
2.2 Industry structure

The diagram, Construction industry structure 2007 – UK vs. West Midlands, illustrates the sector breakdown of construction in the West Midlands compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

New work and repair and maintenance (R&M)in the West Midlands accounted for 56% and 44% of total construction output in 2007, in line with the UK figures.

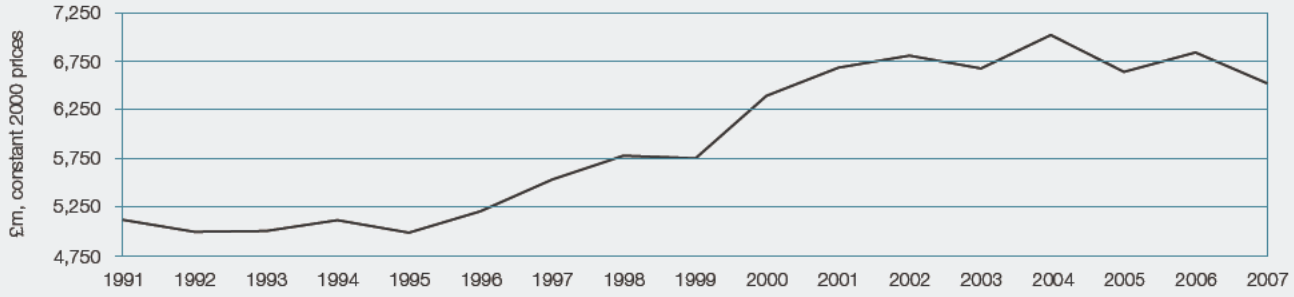
In fact there is little significant difference between the structure of the West Midlands and UK construction markets.

Construction industry structure 2007 - UK vs. West Midlands



Source: ONS, Experian

Construction output 1991-2007 - West Midlands



Source: ONS
Footnote: 1 (See Appendix III)

2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2009–2013) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic structure

Gross value added (GVA) in the West Midlands was valued at £86.6bn in 2007 (2003 prices), 8% of the UK economy as a whole. This was 2.9% higher than in the previous year.

Financial and business services has only recently overtaken public services as the West Midland's largest sector. Its share of output has increased from 18% in 2000 to over 24% in 2007. During the same period, public services share of total GVA has changed only very slightly, remaining around the 22% mark. Manufacturing accounts for a larger share of output in the region than in the UK as a whole. In the West Midlands, manufacturing accounted for almost 18% of output in 2007, down from over 22% in 2000, but still higher than the UK figure of 14%.

M6 Toll Road

Economic structure - West Midlands
(£ billion, 2003 prices)

Selected sectors	Actual	Forecast Annual % change, real terms					
	2007	2008	2009	2010	2011	2012	2013
Public services	19	2.2	0.7	0.5	1.2	1.1	1.1
Financial and business services	21	2.1	0.1	3.1	5.3	5.6	5.6
Transport and communications	6	3.2	0.0	3.0	2.8	2.5	2.4
Manufacturing	15	-0.5	-3.3	0.6	0.8	0.3	0.3
Distribution, hotels and catering	15	1.8	-0.5	1.7	2.3	2.1	2.0
Total Gross Value Added (GVA)	**87**	**0.3**	**-0.8**	**1.3**	**2.0**	**1.9**	**2.0**

Source: Experian
Footnote: 3 (See Appendix III)

Economic indicators - West Midlands
(£ billion, 2003 prices - unless otherwise stated)

	Actual	Forecast Annual % change, real terms					
	2007	2008	2009	2010	2011	2012	2013
Real household disposable income	64	0.3	0.1	1.1	1.9	2.3	2.3
Household spending	61	0.8	-1.3	1.2	2.7	2.5	2.3
Debt:income ratio	1.3	1.3	1.2	1.2	1.1	1.1	1.1
House prices (£'000, current prices)	178	-3.3	-17.1	-2.0	2.9	4.3	4.2
LFS unemployment (millions)	0.17	6.1	23.9	5.9	-8.0	-9.2	-6.2

Source: ONS, DCLG, Experian

2.5 Forward looking economic indicators

The West Midlands economy is forecast to grow at an average rate of 1.3% per year between 2009 and 2013, similar to the UK average.

Financial and business services is forecast to be the highest growth sector within the West Midlands economy, increasing 21% between 2009 and 2013. This would be expected to have a positive impact on the commercial sector, particularly with regard to office space.

Strong growth is also forecast in the transport and communications sector, which is expected to rise by 11% over the forecast period.

Real household disposable income in the West Midlands is expected to increase at a rate in line with the UK average, and consumer spending is predicted to increase at a slightly faster rate than across the UK. The household debt to income ratio is forecast to decline slightly in the forecast period, remaining below the average for the UK as a whole.

The Department for Communities and Local Government (DCLG) reported that average house prices in the West Midlands reached £178,000 in 2007. This was an increase of 5% on 2006. However, house prices have begun to fall in the region, as they have done across the UK, and by the third quarter of 2008 were 4.4% down on a year ago according to the DCLG measure.

2.6 New construction orders – overview

New work construction orders increased for the fourth consecutive year in 2007, rising 30% to £4.6bn, in current prices, following a fall in 2003.

The effect large individual contracts can have on orders statistics is apparent in the infrastructure sector in 2007. Orders rose by 150% to £771m, in current prices, which was attributed to the project to widen the M1 between junctions 25 and 28. However, resulting output streams tend to be much smoother.

2.7 New construction orders – current situation

Private commercial and private housing are the largest of the new work sectors and orders in both fell sharply in the first three quarters of 2008. Commercial new work orders declined 29% to £855m, from a year earlier, whilst private housing new work orders fell 37% to £474m, in current prices. This is in line with expectations, as worsening economic conditions continue to bite, making funding more difficult to come by for both developers and consumers.

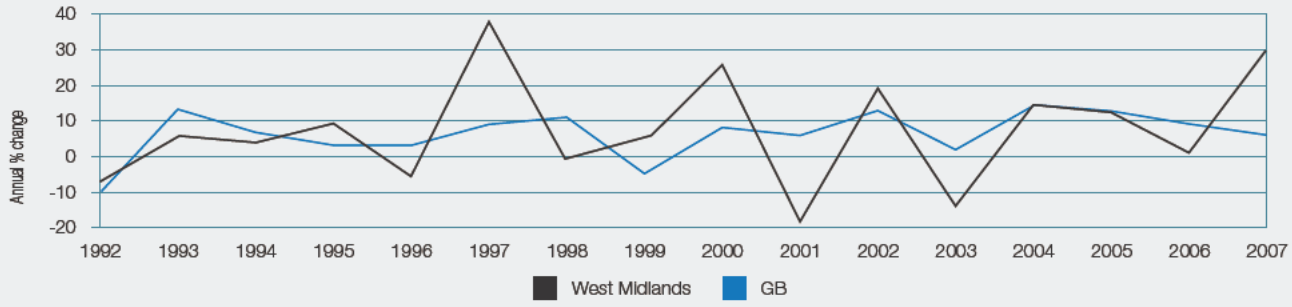
The infrastructure sector tends to be dominated by a few large orders and is, as a consequence, fairly volatile. Orders fell 44% in the first nine months of the year, but this compared to a particularly strong first quarter in 2007 when the M1 widening project was let. Public housing saw a 13% rise, but it accounts for the smallest proportion of new work orders in the West Midlands.

New work construction orders - West Midlands (£ million, current prices)

	Actual	Annual % change				
	2007	2003	2004	2005	2006	2007
Public housing	279	20.9	171.2	-11.3	41.6	57.7
Private housing	1,004	31.9	28.0	6.0	-14.7	-12.0
Infrastructure	771	-41.8	-21.5	33.8	-11.2	149.6
Public non-housing	631	-21.8	17.0	5.6	-1.1	17.2
Industrial	412	-23.1	10.2	16.0	16.7	27.9
Commercial	1,461	-28.7	1.5	22.6	23.1	42.1
Total new work	**4,557**	**-14.3**	**14.9**	**11.9**	**1.5**	**29.6**

Source: ONS
Footnote: 4 (See Appendix III)

New construction orders growth 1992-2007 - West Midlands vs. GB



Source: ONS
Footnote: 4 (See Appendix III)

2.8 Construction output – short-term forecasts (2009–2010)
Regional Office of National Statistics (ONS) output statistics are published in current prices and are thus inclusive of any inflationary effect. At the time of writing, ONS construction output statistics are only available for the first three quarters of 2008.

Total construction output, in current prices, in the West Midlands was 7% higher in the first three quarters of 2008 compared to the same period of 2007. Both the new work and repair and maintenance (R&M) sectors saw increases in output in the first nine months of the year. However, the economic downturn is expected to start biting in the fourth quarter of the year, and the outturn for 2008 as a whole is forecast to be only slightly up in real terms. It is then predicted to contract at an average annual rate of 1.6% between 2009 and 2010. Most of the decline takes place in 2009, with new work activity particularly weak.

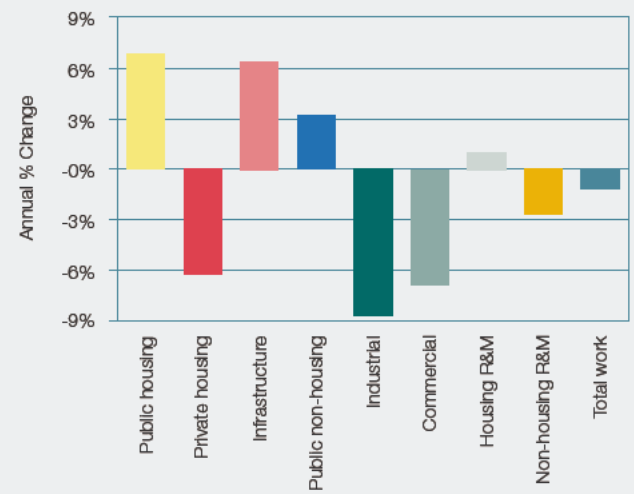
Public housing and infrastructure are expected to be the best performing sectors, with average annual growth rates of 6.7% and 6.4% respectively. Public housing is expected to benefit from government plans to increase investment in social housing and the resulting rise in funding in order to achieve this. A raft of infrastructure projects are expected to come on line in the forecast period, including a number of road schemes and the planned redevelopment of Birmingham New Street station.

Industrial output grew strongly in the first three quarters of the year, rising 18% from a year earlier. However, this growth is unlikely to be sustained and the sector is expected to be the worst performing in the short term. An average annual rate of decline of 8.8% is predicted between 2009 and 2010.

The commercial sector is also predicted to fare badly in the short term, declining by an average of 6.6% in 2009 and 2010. Major contributing factors include lack of availability of credit and weak consumer confidence. The financial market turmoil is affecting demand for new office space.

The housing R&M sector is forecast to perform relatively better than most in the short term, increasing by 1% in 2009 and 2010. This contrasts with an average annual decline of 2.8% for non-housing R&M.

Annual average construction output growth 2009-2010 - West Midlands



Source: Experian
Footnote: 2 (See Appendix III)

Construction output - West Midlands (£ million, 2000 prices)

	Actual	Forecast annual % change			Annual average
	2007	2008	2009	2010	2009-2010
Public housing	216	38%	11%	3%	6.7%
Private housing	926	-29%	-17%	7%	-6.1%
Infrastructure	391	20%	6%	7%	6.4%
Public non-housing	567	14%	5%	1%	3.2%
Industrial	366	7%	-10%	-7%	-8.8%
Commercial	1,188	3%	-9%	-4%	-6.6%
New work	**3,654**	**1%**	**-5%**	**0%**	**-2.1%**
Housing R&M	1,330	4%	1%	1%	1.0%
Non-housing R&M	1,622	-1%	-3%	-2%	-2.8%
Total R&M	**2,952**	**2%**	**-1%**	**-1%**	**-1.0%**
Total work	**6,606**	**1%**	**-3%**	**0%**	**-1.6%**

Source: Experian
Footnote: 1 and 2 (See Appendix III)

2.9 Construction output – long-term forecasts (2009–2013)

Looking at the longer term, total construction output in the West Midlands is expected to increase by an annual average rate of 0.2% over the forecast period, slightly slower than the UK figure of 0.5%. New work growth is expected to be in line with this figure, with the repair and maintenance (R&M) sector increasing by a marginally faster rate of 0.3% per year, on average. Average annual growth is forecast in just two sectors, infrastructure and public housing, with declines ranging from -1.2% to -0.4% predicted for the remaining sectors over the forecast period.

The infrastructure sector is forecast to grow significantly over the five-year period, at a rate of 5% per year. In addition to work starting on Birmingham New Street station, a number of road projects, such as Coventry's £64m street lighting programme and Birmingham's 25-year PFI roads contract, and increased investment in water and sewage are still expected to go ahead, despite the current economic conditions.

Marginal growth of 0.4% per year is expected for the public housing sector, as some increased funding is available in the short term to increase the provision of social housing in the West Midlands. However, as in other English regions, social housing providers who were making extensive use of section 106 agreements may find it difficult to keep levels of new build up in the short term due to the lack of developments.

The strongest decline is expected in the industrial sector, with output falling at an annual average rate of 1.2% over the forecast period. A weak performance from the manufacturing sector will have a knock-on effect on industrial construction, with firms unwilling to invest in new factories and warehouses while the outlook is gloomy.

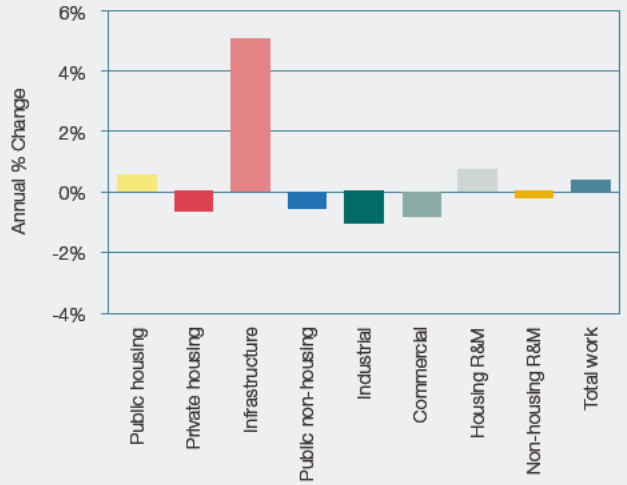
Commercial construction output is forecast to decline at a rate of 0.8% per year in the five years to 2013, reflecting weaker economic conditions and the resulting lack of consumer confidence. Tighter credit conditions are impacting on businesses, as well as individuals, and office expansion plans may well be put on hold in the short term.

The private housing sector has been badly hit over the past year by falling house prices and weakening demand, as potential buyers struggle to obtain mortgages and wait for prices to fall further. An average annual decline of 0.5% is forecast for the sector.

Despite work continuing on the Building Schools for the Future (BSF) programme, which the West Midlands benefits moderately from, output in the public non-housing sector is predicted to decline at a rate of 0.4% per year. This may be due to the uncertainty of funding post-wave 4 of the project.

Growth of 0.7% per year is expected for the housing R&M sector in the five years to 2013. In contrast, a marginal decline of 0.1% is predicted for the non-housing R&M sector.

Annual average construction output growth 2009-2013 - West Midlands



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

Construction output - West Midlands
(£ million, 2000 prices)

	Estimate	Forecast annual % change					Annual average
	2008	2009	2010	2011	2012	2013	2009-2013
Public housing	297	11%	3%	-5%	-5%	-1%	0.4%
Private housing	657	-17%	7%	5%	4%	2%	-0.5%
Infrastructure	470	6%	7%	5%	3%	4%	5.0%
Public non-housing	644	5%	1%	-5%	-3%	0%	-0.4%
Industrial	391	-10%	-7%	5%	6%	2%	-1.2%
Commercial	1,224	-9%	-4%	2%	4%	3%	-0.8%
New work	**3,684**	**-3%**	**0%**	**2%**	**2%**	**1%**	**0.2%**
Housing R&M	1,389	1%	1%	-2%	1%	2%	0.7%
Non-housing R&M	1,609	-3%	-2%	1%	2%	2%	-0.1%
R&M	**2,998**	**-1%**	**-1%**	**0%**	**2%**	**2%**	**0.3%**
Total work	**6,681**	**-3%**	**0%**	**0%**	**2%**	**2%**	**0.2%**

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

3 Construction employment forecasts for the West Midlands

3.1 Total construction employment forecasts by occupation

The table, Total employment by occupation – West Midlands, presents actual construction employment (SIC 45 and 74.2) in the West Midlands for 2007, and the forecast total employment for each of the 26 occupations between 2009 and 2013. A full breakdown of occupations is provided in Appendix IV.

Total construction employment by 2013 in the West Midlands is forecast to slightly exceed 219,000, including both SIC 45 and 74.2. This is 7,410 fewer than in 2007, but an increase of 3,930 on 2009. In 2013, 195,820 employees are expected to be working in occupations classified as SIC 45, with a further 23,250 working in SIC 74.2.

Non-construction professionals, technical, IT and other office-based staff (26,320) is forecast to remain the largest occupational group within the West Midlands in 2013. Other sizeable occupational groups include construction managers, wood trades and interior fit-out, and electrical installations, all of which are forecast to employ more than 17,000 workers in 2013.

Construction managers are set to see the largest increase in employment (1,180) between 2009 and 2013, followed by non-construction professional, technical, IT and other office-based staff (760). Other occupational groups with sizeable increases include labourers nec* (590) and senior, executive and business process managers (510). Six occupational groups are expected to see declines in employment during the five-year period; painters and decorators (360); wood trades and interior fit-out (270); civil engineering operatives nec* (190); other construction professionals and technical staff (180); specialist building operatives nec* (30); and architects (30).

Surveyors are forecast to see the greatest proportional increase in employment, with total employment expected to rise by 9% between 2009 and 2013. Increases of 8% are forecast for scaffolders, plasterers and dry liners and labourers nec*. In contrast, proportional increases for steel erectors/structural, building envelope specialists and civil engineers are expected to be less than 1%.

Total employment by occupation - West Midlands

	Actual	Forecast	
	2007	2009	2013
Senior, executive, and business process managers	11,460	11,440	11,950
Construction managers	19,040	17,970	19,150
Non-construction professional, technical, IT, and other office-based staff	26,990	25,560	26,320
Wood trades and interior fit-out	19,680	18,280	18,010
Bricklayers	7,340	6,480	6,400
Building envelope specialists	8,070	7,390	7,410
Painters and decorators	12,710	11,730	11,370
Plasterers and dry liners	3,280	3,060	3,310
Roofers	6,030	5,800	5,970
Floorers	3,530	3,320	3,400
Glaziers	5,850	5,860	5,950
Specialist building operatives nec*	6,280	5,850	5,820
Scaffolders	2,030	2,010	2,180
Plant operatives	2,160	2,050	2,020
Plant mechanics/fitters	1,800	1,620	1,640
Steel erectors/structural	2,450	2,230	2,240
Labourers nec*	8,150	7,760	8,350
Electrical trades and installation	18,150	17,340	17,800
Plumbing and HVAC Trades	16,040	15,280	15,420
Logistics	2,810	2,710	2,770
Civil engineering operatives nec*	5,400	5,440	5,250
Non–construction operatives	13,560	12,920	13,090
Civil engineers	5,120	5,450	5,460
Other construction professionals and technical staff	12,460	11,900	11,720
Architects	1,320	1,190	1,160
Surveyors	4,770	4,500	4,910
Total (SIC 45)	**202,810**	**192,100**	**195,820**
Total (SIC 45 and 74.2)	**226,480**	**215,140**	**219,070**

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

* nec - not elsewhere classified

3.2 Annual recruitment requirements by occupation

The annual recruitment requirement (ARR) is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education representatives. Thus, the ARR 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.

The ARR for 26 occupations within the West Midlands construction industry between 2009 and 2013 is illustrated in the table, Annual recruitment requirement by occupation – West Midlands. The ARR of 3,620 is indicative of the average requirements per year for the industry, as based on the output forecasts for the region. This takes into account 'churn' – flows into and out of the industry.

The largest ARRs are expected to be for wood trades and interior fit-out (550), closely followed by plumbing and HVAC trades (460) and construction managers (440). Within the West Midlands, 40% of the entire construction industry's ARR is accounted for by these three occupations.

Please note that all of the ARRs presented in this section are employment requirements and not necessarily training requirements. This is because some new entrants to the construction industry, such as skilled migrants or those from other industries where similar skills are already used, will be able to work in the industry without the need for retraining.

Non-construction operatives is a diverse occupational group including all of the activities under the SIC 45 and SIC 74.2 umbrella that cannot be classified elsewhere, such as cleaners, elementary security occupations nec* and routine inspectors and 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 date. Therefore the ARR for non-construction operatives is not published.

Annual recruitment requirement by occupation - West Midlands

	2009-2013
Senior, executive, and business process managers	150
Construction managers	440
Non-construction professional, technical, IT, and other office-based staff	140
Wood trades and interior fit-out	550
Bricklayers	130
Building envelope specialists	70
Painters and decorators	160
Plasterers and dry liners	<50
Roofers	60
Floorers	80
Glaziers	200
Specialist building operatives nec*	60
Scaffolders	100
Plant operatives	50
Plant mechanics/fitters	80
Steel erectors/structural	80
Labourers nec*	240
Electrical trades and installation	460
Plumbing and HVAC Trades	100
Logistics	100
Civil engineering operatives nec*	<50
Non–construction operatives	
Civil engineers	50
Other construction professionals and technical staff	150
Architects	<50
Surveyors	70
Total (SIC 45)	**3,320**
Total (SIC 45 and 74.2)	**3,620**

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

* nec - not elsewhere classified

4 Comparisons across the UK

Between 2009 and 2013 most regions and nations are forecast to experience a rise in construction output, the exceptions being the South West, and Yorkshire and Humber the former of which is predicted to see a slight decline and the latter no change.

The South West does not benefit from growth in the infrastructure and public non-housing sectors in the way that many other regions and nations do, as there are no major civil engineering projects planned for the region within the forecast period and few local authorities feature in the early phases of the Building Schools for the Future programme (BSF). In Yorkshire and Humber, the low average annual growth rate is a function of a very poor 2009 predicated on the largest fall in new orders of any region or nation in 2008.

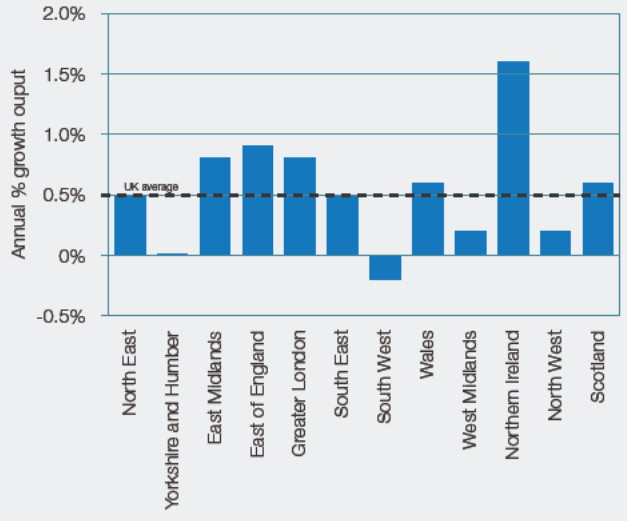
Northern Ireland continues to show the highest forecast growth in output, driven by the investment strategy planned for the next 10 years by the Northern Ireland Executive, although worries about how quickly this can be delivered have led to a lower growth rate than that put forward in previous years. The East Midlands, East of England and Greater London are also predicted to do better than the UK average, the capital in particular benefits from major infrastructure projects, the BSF programme, and Olympics build.

The West Midlands has one of the higher annual recruitment requirements (3,620) due to significant outflows of its workforce to other regions

The ARR for 2009–2013 for Greater London is estimated to be the highest of the regions with just over 6,000 new entrants needed each year. This high ARR can in part be attributed to the region accounting for a large proportion of construction output for the UK as a whole. Next comes the South East with an ARR of around 5,700, not surprising given that the size of the construction market in the region is similar to Greater London's, and the North West with an ARR of close to 4,800.

The lowest ARR is for Northern Ireland at 900, despite the fact that the province has the highest output growth rate in the UK. This is because it is a small market, accounting for around 2.7% of UK output and 3.1% of UK employment. The North East has quite a high ARR, at a little over 2,000, compared to its market size. This is because it has a reasonable growth rate in output terms and it suffers from significant outflows of construction workers to other regions.

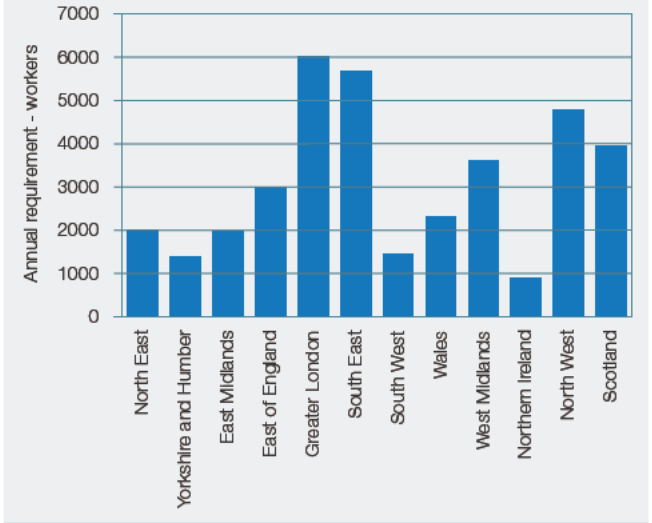
Annual average output growth by region 2009-2013



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

* nec - not elsewhere classified

Annual recruitment requirement (ARR) by region 2009-2013



Source: CSN, Experian

Appendix I – Methodology

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, CIC and CITB Northern Ireland are working as ConstructionSkills, the Sector Skills Council 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 a 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.

Selfridges, Birmingham

Observatory groups currently meet bi-annually and consist of key regional stakeholders invited from industry, Government, education and other SSCs, all of whom contribute local industry knowledge and views on training, skills, recruitment, qualifications and policy.

The National Group also includes representatives from industry, Government, education and other SSCs. This Group convenes twice a year and 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 and validation 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 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 **annual recruitment requirement (ARR)** is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by ConstructionSkills in partnership with the Learning and Skills Council (LSC) and Higher Education representatives. Thus, the annual recruitment 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.

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:

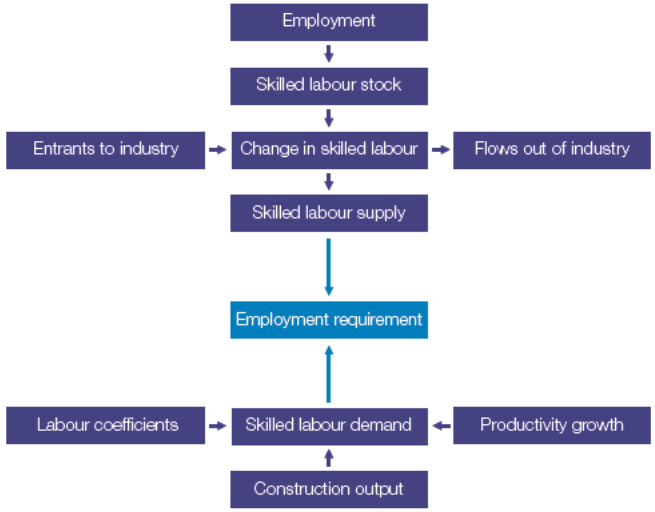
- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

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.

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

- **Building envelope specialists** – any trade involved with the external cladding of the building other than bricklaying, e.g. curtain walling.
- **Demand** – construction **output**, vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using Office for National Statistics (ONS) 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 Intelligence – 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.
- **Nec** – not elsewhere classified, used as a reference in LFS data.
- **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 and footprints

Footnotes

1 Except for Northern Ireland, output data for the English regions, Wales and Scotland are supplied by the Office for National Statistics (ONS) on a current price basis. Thus national deflators produced by the ONS 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 Great Britain 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 completition
	45.5	Renting of construction or demolition equipment with operator
	74.2†	Architectural and engineering activities and related technical consultancy

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.

ConstructionSkills recognises the responsibility of Summit Skills across Standard Industrial Classfications (SIC) 45.31 and 45.33, thus data relating to the building services engineering sector is included here primarily for completeness.

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 and 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.

† AssetSkills has a peripheral interest in SIC 74.2

Appendix IV – Occupational groups

Occuptional group
Description, SOC reference.

Senior, executive and business process managers
Directors and chief executives of major organisations, 1112
Senior officials in local government, 1113
Financial managers and chartered secretaries, 1131
Marketing and sales managers, 1132
Purchasing managers, 1133
Advertising and public relations managers, 1134
Personnel, training and Industrial relations managers, 1135
Office managers, 1152
Civil service executive officers, 4111
Property, housing and land managers, 1231
Information and communication technology managers, 1136
Research and development managers, 1137
Customer care managers, 1142
Storage and warehouse managers, 1162
Security managers, 1174
Natural environment and conservation managers, 1212
Managers and proprietors in other services nec*, 1239

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

Non-construction professional, technical, IT, and other office–based staff (excl. managers)
IT operations technicians, 3131
IT user support technicians, 3132
Estimators, valuers and assessors, 3531
Finance and investment analysts/advisers, 3534
Taxation experts, 3535
Financial and accounting technicians, 3537
Vocational and Industrial trainers and instructors, 3563
Business and related associate professionals nec*, 3539
Legal associate professionals, 3520
Inspectors of factories, utilities and trading standards, 3565
Software professionals, 2132
IT strategy and planning professionals, 2131
Estate agents, auctioneers, 3544
Solicitors and lawyers, judges and coroners, 2411
Legal professionals nec*, 2419
Chartered and certified accountants, 2421
Management accountants, 2422
Management consultants, actuaries, economists and statisticians, 2423
Receptionists, 4216
Typists, 4217
Sales representatives, 3542
Civil Service administrative officers and assistants, 4112
Local government clerical officers and assistants, 4113
Accounts and wages clerks, book-keepers, other financial clerks, 4122
Filing and 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 and other secretaries, 4215
Sales and retail assistants, 7111
Telephone salespersons, 7113
Buyers and purchasing officers (50%), 3541
Marketing associate professionals, 3543
Personnel and 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

* nec - not elsewhere classified

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

Bricklayers
Bricklayers, masons, 5312

Building envelope specialists
Construction trades nec* (50%), 5319
Labourers in building and woodworking trades (5%), 9121

Painters and decorators
Painters and decorators, 5323
Construction trades nec* (5%), 5319

Plasterers and dry liners
Plasterers, 5321

Roofers
Roofers, roof tilers and slaters, 5313

Floorers
Floorers and wall tilers, 5322

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

* nec - not elsewhere classified

Specialist building operatives nec*
Construction operatives nec* (80%), 8149
Construction trades nec* (5%), 5319
Industrial cleaning process occupations, 9132

Scaffolders
Scaffolders, stagers, riggers, 8141

Plant operatives
Crane drivers, 8221
Plant and machine operatives nec*, 8129
Transport operatives nec*, 8219
Fork–lift truck drivers, 8222
Mobile machine drivers and operatives nec*, 8229
Agricultural machinery drivers, 8223

Plant mechanics/fitters
Metal working production and maintenance fitters, 5223
Precision instrument makers and repairers, 5224
Motor mechanics, auto engineers, 5231
Labourers in process and plant operations nec*, 9139
Tool makers, tool fitters and markers-out, 5222
Vehicle body builders and repairers, 5232
Auto electricians, 5233
Vehicle spray painters, 5234
Goldsmiths, silversmiths, precious stone workers, 5495
Tyre, exhaust and windscreen fitters, 8135

Steel erectors/structural
Steel erectors, 5311
Welding trades, 5215
Sheet metal workers, 5213
Metal plate workers, shipwrights and riveters, 5214
Construction trades nec* (5%), 5319
Smiths and forge workers, 5211
Moulders, core makers, die casters, 5212
Metal machining setters and setter-operators, 5221

Labourers nec*
Labourers in building and woodworking trades (80%), 9121

Electrical trades and installation
Electricians, electrical fitters, 5241
Electrical/electronic engineers nec*, 5249
Telecommunications engineers, 5242
Lines repairers and cable jointers, 5243
TV, video and audio engineers, 5244
Computer engineers, installation and maintenance, 5245

Beetham Tower, Birmingham

* nec - not elsewhere classified

Plumbing and heating, ventilation, and air conditioning trades
Plumbers and HVAC trades, 5314
Pipe fitters, 5216
Labourers in building and woodworking trades (6%), 9121
Construction trades nec* (5%), 5319

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

Civil engineering operatives nec*
Road construction operatives, 8142
Rail construction and maintenance operatives, 8143
Quarry workers and related operatives, 8123
Construction operatives nec* (20%), 8149
Labourers in other construction trades nec*, 9129

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

Civil engineers
Civil engineers, 2121

Other construction professionals and technical staff
Mechanical engineers, 2122
Electrical engineers, 2123
Chemical engineers, 2125
Design and development engineers, 2126
Production and process engineers, 2127
Planning and quality control engineers, 2128
Engineering professional nec*, 2129
Electrical/electronic technicians, 3112
Engineering technicians, 3113
Building and civil engineering technicians, 3114
Science and engineering technicians nec*, 3119
Architectural technologists and town planning technicians, 3121
Draughtspersons, 3122
Quality assurance technicians, 3115
Town planners, 2432
Electronics engineers, 2124
Building inspectors, 3123
Scientific researchers, 2321

Architects
Architects, 2431

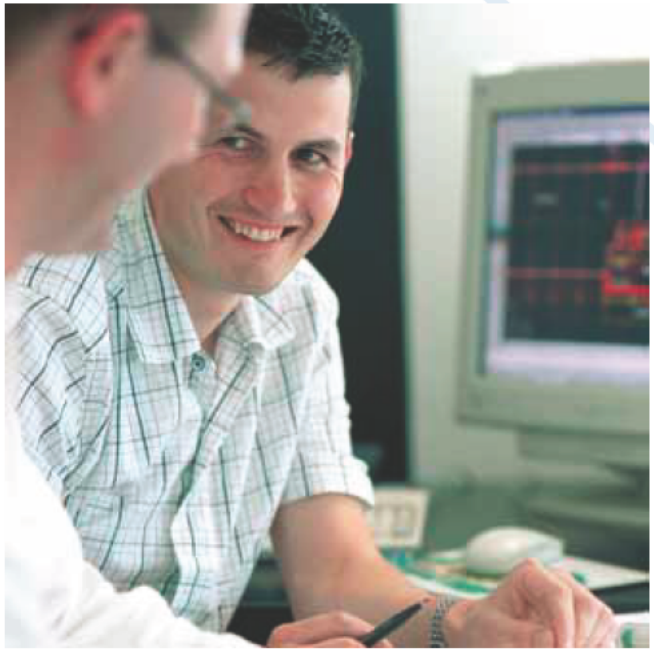
Surveyors
Quantity surveyors, 2433
Chartered surveyors (not Quantity surveyors), 2434

* nec - not elsewhere classified

Appendix V – CSN website and contact details

The CSN website – http://www.cskills.org/csn
The CSN website functions as a **public gateway** for people wishing to access the range of **Labour Market Intelligence (LMI)** reports and **research material** regularly produced by the CSN.

The main UK report, along with the twelve LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while research reports such as the '2020Vision' and 'Closer look at Greater London' are also freely available.



Having access to this range of labour market intelligence and trend insight allows industry, government, regional agencies and key stakeholders to:

- pinpoint the associated, specific, skills that will be needed year by year
- identify the sectors which are likely to be the strongest drivers of output growth in each region and devolved nation
- track the macro economy
- understand how economic events impact on regional and devolved nations economic performance
- highlight trends across the industry such as national and regional shifts in demand
- plan ahead and address the skills needs of a traditionally mobile workforce
- understand the levels of qualified and competent new entrants required into the workforce.

The website also contains further information about:

- how the CSN functions
- the CSN Model approach
- how the Model can be used to explore scenarios
- CSN team contact information
- access to related ConstructionSkills research
- details for those interested in becoming members of the network.

The CSN website can be found at:
http://www.cskills.org/csn

CSN Members Area

While the public area of the CSN Website is the gateway to the completed LMI and research reports, being a member of the CSN offers further benefits.

As a CSN member you will be linked to one of the Observatory groups, which play a vital role in being able to feed back observations, knowledge and insight on what is really happening on the ground in every UK region and nation. This feedback is used to fine tune the assumptions and data that goes into the forecasting programme such as:

- details of specific projects
- demand within various types of work or sectors
- labour supply
- inflows and outflows across the regions and devolved nations.

CSN Members therefore have:

- early access to forecasts
- the opportunity to influence and inform the data
- the ability to request scenarios that could address "What would happen if…" types of questions using the model.

Through the Members area of the CSN website, members can:

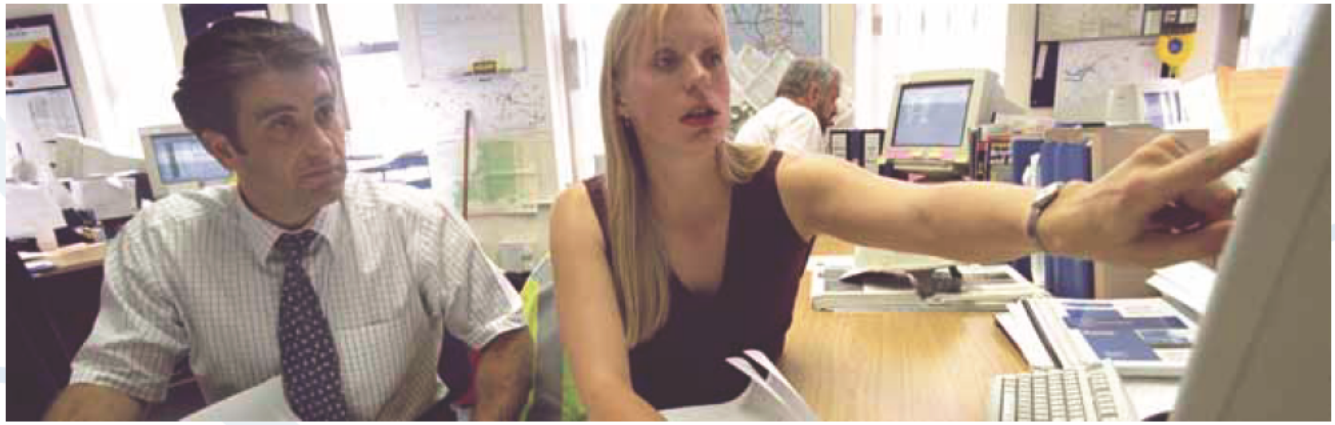
- access observatory related material such as meeting dates, agendas, presentations and notes
- access sub-regional LMI reports
- download additional research material
- comment/feedback to the CSN Team.

As the Observatory groups highlight the real issues faced by the industry in the UK, we can more efficiently and effectively plan our response to skills needs. If you would like to contribute your industry observations, knowledge and insight to this process and become a member of the CSN, we would be delighted to hear from you.

Contact details

For further information about the CSN website, or to register your interest in joining the CSN as a member, please contact us at: **csn@cskills.org**

For enquiries relating to the work of the CSN, please contact Sandra Lilley, CSN Manager, at: **sandra.lilley@cskills.org**



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