

Construction Skills Network South West

LABOUR MARKET INTELLIGENCE 2008 - 2012



Contents

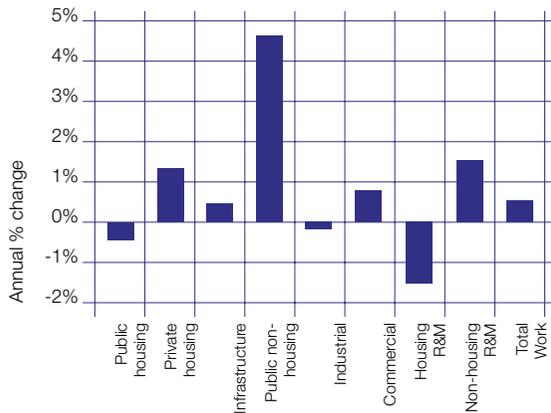


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1 Headlines

The South West economy is forecast to grow at an annual average rate of 2.6% between 2008 and 2012

Annual average construction output growth 2008-2012 - South West



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

1.1 South West economy

- The South West economy was worth £85bn in 2006, equivalent to approximately 8% of the UK total.
- Public services account for approximately 24% of the regional economy, more than any other sector. Financial and business services account for a further 22% of activity, but this is relatively low by national standards.
- Growth is expected to be fastest in financial and business services, transport and communications and distribution, hotels and catering.

1.2 Construction output in the South West

- Worth £6.7bn in 2006, in 2000 prices. Construction in the South West accounts for around 8% of the UK total.
- Output is forecast to grow at an annual average rate of 0.5% between 2008 and 2012.
- Rapid expansion in the commercial sector fuels growth in the early part of the forecast period as

Regional comparisons 2008 - 2012

	Annual average % change in output	Growth in total employment	Total ARR
North East	1.1	9,480	3,070
Yorkshire & Humber	1.6	10,670	6,620
East Midlands	1.2	9,520	4,530
East of England	2.3	31,240	11,010
Greater London	2.9	27,240	14,930
South East	1.7	21,580	13,140
South West	0.5	9,830	5,980
Wales	1.2	13,500	4,750
West Midlands	0.6	8,970	6,190
Northern Ireland	3.5	11,160	2,980
North West	1.4	11,890	8,870
Scotland	1.2	17,050	6,320
UK	1.7	182,130	88,390

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

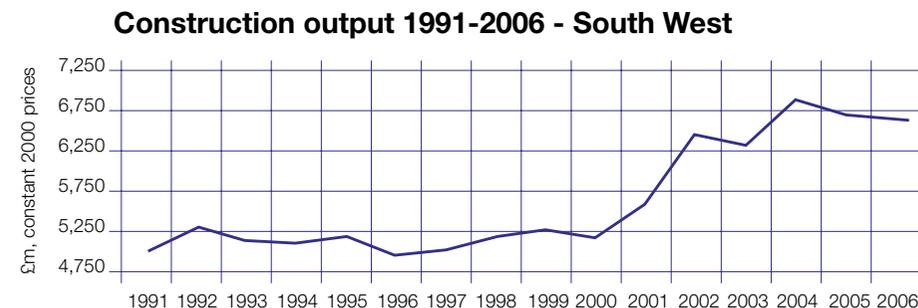
- work accelerates on the Broadmead Shopping Centre and the Queen Alexandra Hospital redevelopment.
- Construction output growth in the South West is forecast to be below the national average.

1.3 Construction employment in the South West

- Total construction employment of 209,550 in 2006 in the South West is forecast to rise to 227,690 in 2008 and 237,520 in 2012.
- To meet this demand, after taking account of those entering and leaving the industry, 5,980 new workers will be required to join the industry each year.
- Construction professionals and technical staff and wood trades and interior fit-out are expected to have the largest annual requirements.

2 The outlook for construction in the South West

The South West's construction industry was worth £6.7bn, in 2000 prices, in 2006, accounting for around 8% of the UK total



Source: DBERR
Footnote: 1 (See Appendix III)

2.1 Construction output in the South West – overview

New work and repair and maintenance (R&M) output were similarly valued at £3.6bn and £3.1bn respectively.

Following the national trend, construction output declined in 2005 as public money for new and R&M development was more constrained. However, unlike the UK as a whole, output in the region continued to decline in 2006, by a further percentage point. New work output was unchanged in 2006 but the R&M sector's value fell by 2%.

To put these recent, relatively minor, declines into a wider context, in the decade to 2006 total construction output rose robustly, by around 31% in real terms. New work output grew by a strong 39% over this period, while the expansion in R&M activity was slower at 24%.

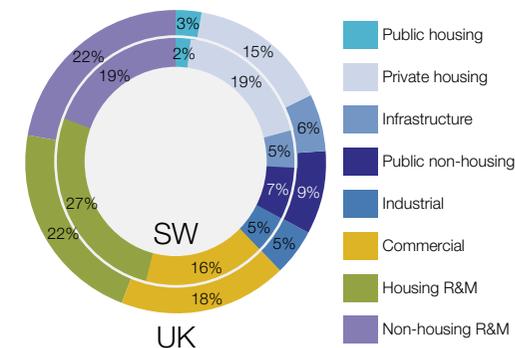
The private housing and commercial sectors played a large role in fuelling such a buoyant rate of growth in new work output over the past decade. Rapid house price inflation and a thriving housing market encouraged new development, while steady economic expansion and a move towards private sector delivery of public facilities boosted commercial activity.

2.2 Industry structure

The private housing sector is exceptionally large in the South West accounting for 41% of new construction output. At the same time, however, its public housing sector is smaller than average, which is surprising given that affordability is a particular problem here. Private housing's dominance is at the expense of the commercial and public non-residential sectors, both of which take a relatively small share of the total.

The region's new work/R&M split is broadly in line with the UK as a whole, although the split between housing and non-housing work is different.

Construction industry structure 2006 - UK vs. South West



Source: DBERR, Experian

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

Selected sectors	Actual		Forecast Annual % change, real terms				
	2006	2007	2008	2009	2010	2011	2012
Public services	20	2.2	1.7	1.9	1.9	2.3	2.4
Financial & business services	18	7.0	5.1	5.1	4.9	4.6	4.4
Transport & communications	6	6.6	3.1	3.1	3.7	3.8	3.8
Manufacturing	13	1.8	0.9	1.3	1.9	2.0	2.1
Distribution, hotels & catering	14	2.5	2.0	3.1	3.7	3.8	3.7
Total Gross Value Added (GVA)	85	2.7	2.1	2.5	2.8	2.8	2.8

Source: Experian
Footnote: 3 (See Appendix III)



2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2008–2012) provides an indication of the construction sectors in which demand is likely to be strongest.

2.4 Economic structure

In 2006 the South West economy was worth £85bn, in 2003 prices, 3.3% higher than in 2005 and equivalent to around 8% of the UK total.

Public services was the largest component of gross value added (GVA), accounting for almost a quarter of the total. A further 22% of economic activity was generated by financial and business services, but this share was low by comparison with the national average. That said, this share is expected to rise between 2008 and 2012 as growth in the sector is forecast to be twice that for GVA.

Other sectors expected to account for a rising share of the South West economy include transport and communications and distribution, hotels and catering.

2.5 Forward looking economic indicators

Between 2008 and 2012, GVA in the South West is forecast to grow in line with national trends at an annual average rate of 2.6%. Household disposable income and spending growth rates are also expected to follow the UK mean, growing on average by 2.6% and 2.4% per year respectively between 2008 and 2012.

Economic indicators - South West

(£billion, 2003 prices - unless otherwise stated)

Selected sectors	Actual		Forecast Annual % change, real terms				
	2006	2007	2008	2009	2010	2011	2012
Real household disposable income	65	2.0	3.2	2.2	2.7	2.5	2.4
Household spending	66	2.8	1.9	1.9	2.7	2.8	2.6
Debt:income ration	2.1	2.2	2.3	2.3	2.3	2.3	2.3
House prices (£'000, current prices)	207	8.4	-1.4	-0.2	3.2	3.8	3.7
LFS unemployment (millions)	0.10	-1.5	-3.0	-3.2	-1.7	-2.3	-4.5

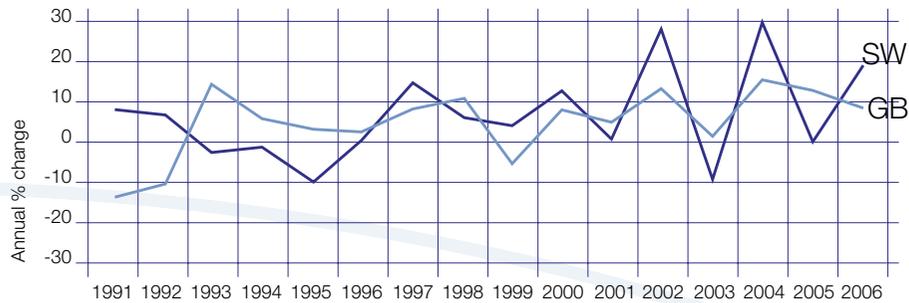
Source: ONS, DCLG, Experian

The debt to income ratio in the South West has escalated significantly in recent years. However, the ratio is expected to stabilise at 2.3 over the forecast period. Nonetheless, this remains well above the national average.

The Department for Communities and Local Government (DCLG) reported that average house prices in the South West reached £207,000 in 2006. This was 7.5% above the national average.

House prices are expected to fall marginally in the South West in 2008 against a national trend of modest growth. Little change is expected in 2009 before price rises are re-established in 2010 and beyond, albeit at rates much lower than witnessed in recent years.

New construction orders growth 1991-2006 - South West vs. GB



Source: DBERR
Footnote: 4 (See Appendix III)

New orders statistics are based on the Department for Business Enterprise and Regulatory Reform's (DBERR) 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

Since 2000 new work orders in the South West have risen significantly in value. Growth has by no means been constant but a few very strong years more than compensated for one or two weaker ones. Orders climbed by 19% in 2006 to £4.1, in current prices (see chart and table above).

Commercial projects were largely behind this buoyant increase. In addition to the privately funded Bristol Building Schools for the Future programme, the contract to build the Broadmead Shopping Centre was also let.

In contrast, infrastructure and public non-housing orders both recorded double-digit declines.

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

2.7 New construction orders – current situation

To end-September new work orders totalled £3bn, in current prices, in the South West. Somewhat unsurprisingly given the exceptional strength of 2006, this was 15% down on the same period a year earlier.

Commercial orders trailed those placed in the first three quarters of 2006 by 23%. However, this was to be expected and possibly more significant was the 22% fall in private housing orders.

Infrastructure orders recovered in 2007, climbing 4% in the first nine months of the year, but were still only worth £222m, in current prices.

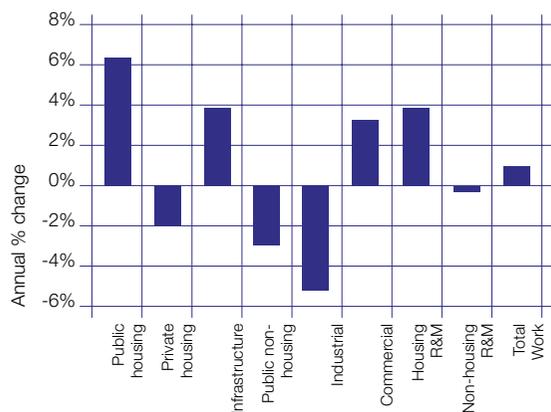
New work construction orders - South West (£million, current prices)

Selected sectors	Actual		Annual % change			
	2006	2002	2003	2004	2005	2006
Public housing	131	67.7	-17.3	12.4	-26.2	22.4
Private housing	1687	43.2	9.4	57.6	13.8	15.8
Infrastructure	260	86.1	-37.1	-32.7	39.0	-29.9
Public non-housing	342	68.0	-20.4	21.0	-30.2	-22.6
Industrial	294	-47.4	49.6	5.3	34.3	23.0
Commercial	1413	-13.3	-0.3	49.2	-12.3	64.5
Selected sectors	4127	27.7	-9.1	29.6	-0.2	18.8

Source: DBERR
Footnote: 4 (See Appendix III)

Public non-housing orders rose more strongly in the first nine months of the year, climbing 22% to £344m. Industrial orders on the other hand were unchanged from those placed in the first three quarters of 2006.

Annual average construction output growth 2008-2009 - South West



Source: Experian
Footnote: 2 (See Appendix III)

2.8 Construction output – short-term forecasts (2007–2009)

Construction output in current prices was worth £7.4bn in the first nine months of 2007, 5% higher than in the corresponding part of 2006. The repair and maintenance (R&M) sector was marginally stronger than the new work one. R&M output rose by 6% compared to a 5% increase in new work output. Regional DBERR output statistics are published in current prices.

Construction output in the South West is forecast to grow steadily in the short term, at an annual average rate of 1.1% (see chart and table, above). The outlook for new work is stronger than for R&M.

2007 is expected to have been a particularly strong year for the commercial sector. In the first three quarters of the year output was up by

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

	Actual	Forecast	annual % change		Annual average %
	2006	2007	2008	2009	2008-2009
Public housing	122	9.0	7.0	6.0	6.4
Private housing	1,280	3.0	-5.0	2.0	-1.9
Infrastructure	344	1.0	5.0	3.0	3.7
Public non-housing	444	-11.0	-8.0	3.0	-2.8
Industrial	302	-2.0	-4.0	-6.0	-5.1
Commercial	1,045	11.0	7.0	0.0	3.2
New work	3,538	3.0	0.0	1.0	0.2
Housing R&M	1,853	1.0	5.0	3.0	3.8
Non-housing R&M	1,271	-2.0	1.0	-2.0	-0.5
Total R&M	3,123	0.0	3.0	1.0	2.1
Total work	6,661	2.0	1.0	1.0	1.1

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

17% at £1.2bn, in current prices. The short-term outlook for commercial construction is strong as work accelerates on the Broadmead Shopping Centre, Building Schools for the Future projects and the second phase of the Queen Alexandra Hospital redevelopment.

Prospects are less positive for the private housing sector. While 2007's outturn is expected to be higher than 2006's, the sector is unlikely to maintain its momentum. A fall in output is expected in 2008 as a tighter lending environment and slower house price inflation take their toll on market activity. Funds are already committed to the public housing sector and output is expected to rise robustly in the next couple of years.

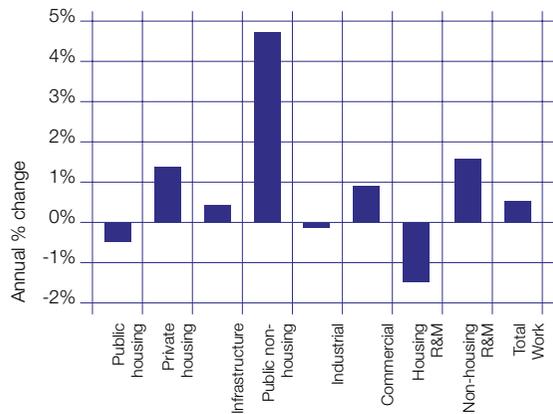
Infrastructure output continued to slide in the first nine months of 2007 but further work in the water

and sewerage sub-sector and track and station improvements to the region's rail network suggest better prospects over the short term. Infrastructure output growth is forecast to average 3.7% through to 2009.

Public non-housing construction is expected to decline further in the short term as the more constrained outlook for public finances, which began in the region in 2005, continues to bite. Prospects for industrial construction are also subdued, but this weaker period comes after several years of very strong expansion.

A buoyant outlook for housing R&M is driving a positive forecast overall for R&M output. Non-housing R&M prospects are weaker.

Annual average construction output growth 2008-2012 - South West



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

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

	Estimate		Forecast annual % change				Annual average %
	2007	2008	2009	2010	2011	2012	2008-2012
Public housing	133	7.0	6.0	0.0	1.0	-8.0	-0.3
Private housing	1,316	-5.0	2.0	2.0	2.0	0.0	1.4
Infrastructure	347	5.0	3.0	0.0	-1.0	1.0	0.5
Public non-housing	397	-8.0	3.0	7.0	5.0	4.0	4.6
Industrial	295	-4.0	-6.0	4.0	0.0	2.0	-0.2
Commercial	1,155	7.0	0.0	2.0	4.0	-3.0	0.8
New work	3,643	0.0	1.0	3.0	2.0	-1.0	1.2
Housing R&M	1879	5.0	3.0	0.0	-5.0	-3.0	-1.5
Non-housing R&M	1,241	1.0	-2.0	5.0	5.0	-2.0	1.6
Total R&M	3,120	3.0	1.0	2.0	-1.0	-3.0	-0.2
Total work	6,763	1.0	1.0	2.0	1.0	-2.0	0.5

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

2.9 Construction output – long-term forecasts (2008–2012)

Over the longer term, output is forecast to rise at an annual average rate of 0.5% and by 2012 the South West’s industry is expected to decline again. However, any falls are expected to be moderate and follow a sustained period of growth overall. The longer-term outlook favours new work rather than R&M, in contrast to the short term. New work output is forecast to rise at an annual average rate of 1.2% compared to an estimated annual decline of 0.2% in the R&M sector (see figures above).

As the forecast period progresses the outlook for public non-housing strengthens. Annual average growth of 4.6% is forecast and the Building Schools for the Future programme is an important driver.

Over the medium term, prospects for the South West’s housing sector improve. Strong underlying demand for housing will ensure that once the current market uncertainties are weathered, house builders will once again increase their output.

Annual average growth of 4.6% is forecast and the Building Schools for the Future programme is an important driver

Growth going forward, however, is unlikely to match the rapid acceleration achieved in the earlier part of this decade, thus steady growth of around 1.4% is forecast.

After a strong start to the forecast period, growth in commercial output is expected to moderate. As a prime UK tourist destination, hoteliers and others operating in the leisure sector are likely to view the 2012 Olympics as an opportunity and quite possibly invest in improving their facilities prior to the event. Falling commercial output in 2012 is a function of this as these works are completed.

Prospects for infrastructure output are more modest in 2010 and beyond. At present large infrastructure schemes in the region are few and far between and it is difficult to see what could

fuel more than marginal increases. Annual average growth of 0.5% is forecast to 2012.

For the industrial and public housing sectors the forecasts are for a slight decline in output overall, although both sectors are affected by one or two bad years rather than a steady fall.

As the government’s Decent Homes initiative comes to an end, housing R&M output starts to decline and the fall is stronger in the South West than in most other regions as the boost given to the sector by the recent floods starts to unwind.

3 Construction employment forecasts for the South West

Almost a third of all construction employment in the South West in 2012 is expected to be in just three occupation groups

3.1 Total construction employment forecasts by occupation

The table, right, presents actual construction employment (SIC 45 and 74.2) in the South West for 2006 and the forecast total employment in 25 occupations and in the industry as a whole between 2008 and 2012.

By 2012 total employment in construction in the South West is expected to stand at 237,520, 27,970 more than in 2006 and 9,830 above that expected in 2008. 213,410 people working in construction in 2012 in the region will be classified as working in SIC 45, with a further 24,110 in SIC 74.2.

Almost a third of all construction employment in the South West in 2012 is expected to be in just three occupation groups – wood trades and interior fit-out (25,660), construction professionals and technical staff (24,110) and non-construction operatives (23,770).

The largest absolute change in employment between 2008 and 2012 is expected for wood trades and interior fit-out, with employment growing by 1,840. Four other occupations – bricklayers, painters and decorators, building envelope specialists and construction professionals and technical staff – are forecast to see employment grow of more than 1,000 posts over this period.

In terms of relative growth, the most sought after occupations between 2008 and 2012 are other professionals/technical staff and IT (22%) and bricklayers and building envelope specialists (10%).

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 occupations is provided in Appendix IV.

Total employment by occupation - South West

	Actual		Forecast	
	2006	2008	2012	
Senior & executive managers	460	440	310	
Business process managers	4,240	4,540	4,760	
Construction managers	12,210	13,260	13,920	
Office-based staff (excl. managers)	16,220	17,220	17,730	
Other professionals/technical staff & IT	1,090	990	1,210	
Wood trades & interior fit-out	21,820	23,820	25,660	
Bricklayers	11,450	12,970	14,250	
Building envelope specialists	10,570	11,980	13,150	
Painters & decorators	12,600	13,410	14,630	
Plasterers & dry liners	2,500	2,650	2,760	
Roofers	3,780	4,040	4,340	
Floorers	3,600	3,800	4,040	
Glaziers	3,660	3,860	3,940	
Specialist building operatives nec*	5,590	5,890	6,230	
Scaffolders	1,660	1,810	1,980	
Plant operatives	4,860	5,100	5,380	
Plant mechanics/fitters	960	1,000	1,040	
Steel erectors/structural	1,160	1,220	1,270	
Labourers nec*	13,270	14,100	14,620	
Electrical trades & installation	13,160	13,870	14,640	
Plumbing & HVAC trades	13,790	15,000	15,890	
Logistics	1,930	2,130	2,250	
Civil engineering operatives nec*	4,900	5,320	5,640	
Non-construction operatives	23,290	26,240	23,770	
Construction professionals & technical staff	20,780	23,030	24,110	
Total (SIC 45)	188,770	204,660	213,410	
Total (SIC 45 & 74.2)	209,550	227,690	237,520	

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

*Nec – not elsewhere classified



3.2 Annual recruitment requirements by occupation

The table, right, outlines the annual recruitment requirement (ARR) for 24 occupations within the South West construction industry between 2008 and 2012. The ARR suggest that an additional 5,980 new recruits will need to be attracted into the South West's construction industry each year in order to deliver forecast construction output, after taking into account those entering and leaving the industry.

The largest annual recruitment requirement in the South West construction industry between 2008 and 2012 is forecast to be for construction professionals and technical staff. More than 1,000 new recruits are expected to be required in this occupation each year. Elsewhere, wood trades and interior fit-out, bricklayers and electrical trades and installation have forecast annual recruitment requirements above 500.

Please note that the ARR 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 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 industries are highly transferable to other industries and forecasting such movement is hazardous given the lack of robust supportive data. Therefore the annual recruitment requirement for non-construction operatives is not published.

*Nec – not elsewhere classified

Annual recruitment requirement by occupation - South West

	2008-2012
Senior & executive managers	<50
Business process managers	140
Construction managers	320
Office-based staff (excl. managers)	390
Other professionals/technical staff & IT	<50
Wood trades & interior fit-out	800
Bricklayers	530
Building envelope specialists	480
Painters & decorators	330
Plasterers & dry liners	70
Roofers	160
Floorers	50
Glaziers	70
Specialist building operatives nec*	170
Scaffolders	90
Plant operatives	130
Plant mechanics/fitters	<50
Steel erectors/structural	<50
Labourers nec*	160
Electrical trades & installation	530
Plumbing & HVAC trades	300
Logistics	<50
Civil engineering operatives nec*	140
Construction professionals & technical staff	1,070
Total (SIC 45)	4,910
Total (SIC 45 & 74.2)	5,980

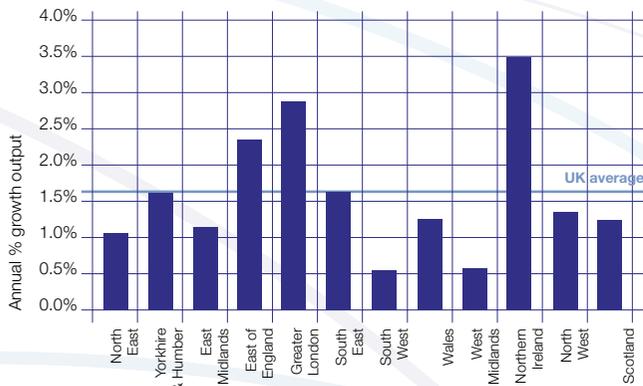


Source: CSN, Experian
Footnote: 5 and 6
(See Appendix III)

4 Regional comparisons

Between 2008 and 2012 construction output is forecast to rise in all UK countries and regions.

Annual average output growth by region - 2008-2012



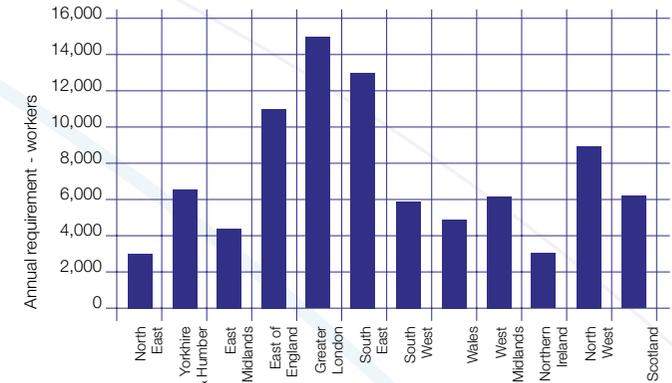
Source: CSN, Experian
Footnote: 2 (See Appendix III)

Inward investment into Northern Ireland following the Multi-Party Agreement will increase construction activity in the province significantly. So much so, its industry is expected to be the strongest in the UK over the forecast period. To 2012 its industry's output is expected to rise by 20%.

Such robust growth is impressive but the province currently only produces a relatively low level of construction output. Given its large size, forecast annual average output growth of 2.9% in Greater London is also very significant. In addition to the 2012 Olympics, the first phase of Thameslink and London Underground's station refurbishment programme are among the larger schemes that will be delivered before this forecast period elapses.

Private house building has been one of the main drivers of construction output growth across the UK as a whole in the past five years. Going forward, housing market conditions are forecast to weaken and growth in new construction in this sector to slow. Over the forecast period

Annual recruitment requirement (ARR) by region - 2008-2012



Source: CSN, Experian

(2008–2012), the infrastructure sector is expected to take the lead in driving the industry forward.

Focusing on employment, the south has the greatest need for skilled construction workers between 2008 and 2012. Nearly 15,000 workers are estimated to be required in Greater London alone each year, and this is after allowing for natural flows into and out of the region. Recruitment requirements in the South East and the East of England are also high.

Northern Ireland's recruitment requirement is low compared to the other regions. Nevertheless it is estimated that around 2,980 workers will need to be recruited each year if demand is to be met.

5 Scenario analysis

An application of the CSN model is scenario testing. 'What if' scenarios can be built and fed into the model to test different events or conditions and to assess the impact on labour requirements.

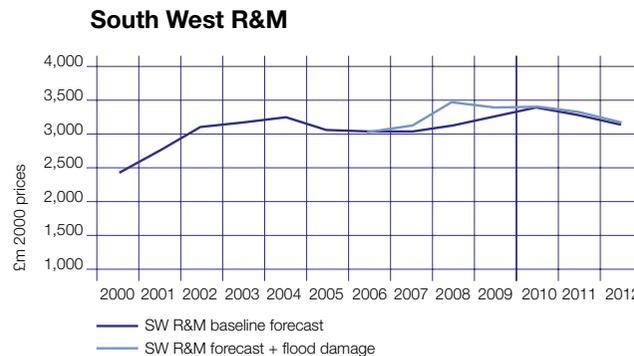
5.1 About scenarios

Providing they are large enough, scenarios can be developed for specific projects or programmes of work that may or may not go ahead. Also, they can be used to investigate the effect of different economic eventualities on the industry. Scenarios tested so far include:

- Crossrail starting in 2010 in Greater London (which currently isn't factored into our central forecast)
- a significant increase in repair and maintenance (R&M) expenditure in Yorkshire and Humber and the South West following the floods in 2007
- a step-change in the rate of house building in the South East as Planning Policy Statement 3 relaxes the planning system sufficiently to enable the region's housing plan to be achieved.

5.2 Increased repair and maintenance work due to flooding

Our baseline forecast assumes a small uplift in R&M expenditure due to the recent floods



However, if recent estimations by DEFRA of a cost of 10k per household for flood repair to buildings then total increase in SW could be as much as £750m over three years. This would...

- increase R&M growth rates in the earlier part of the forecast period from around 2% to 4% in the South West...
- ...but make little difference to the size of the sector by 2012.

Overall UK forecasts remain largely unchanged. The peak year of affect is likely to be 2008.

	Employment		Annual recruitment requirement
	2008	2012	2008-2012
Senior & executive managers	0	0	0
Business process managers	70	70	60
Construction managers	130	130	110
Office-based staff (excl. managers)	130	140	110
Other professionals/technical staff & IT	160	170	120
Wood trades & interior fit-out	310	320	220
Bricklayers	70	80	70
Building envelope specialists	70	80	70
Painters & decorators	130	140	100
Plasterers & dry liners	50	60	30
Roofers	40	50	30
Floorers	50	60	30
Glaziers	10	10	10
Specialist building operatives nec*	40	40	30
Scaffolders	30	30	10
Plant operatives	40	40	20
Plant mechanics/fitters	30	30	10
Steel erectors/structural	30	30	10
Labourers nec*	170	180	110
Electrical trades & installation	210	220	150
Plumbing & HVAC trades	150	160	150
Logistics	20	20	10
Civil engineering operatives nec*	30	30	10
Non-construction operatives	70	70	
Total (SIC 45)	2,040	2,160	1,470
Construction professionals & technical staff	110	110	80
Total (SIC 45 and 74.2)	2,150	2,270	1,550

Source: CSN, Experian

*Nec – not elsewhere classified

Appendix I – Methodology

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



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.

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 convened 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 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** 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 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.

The model was designed and is managed by Experian under the independent guidance of the Technical Reference Group.

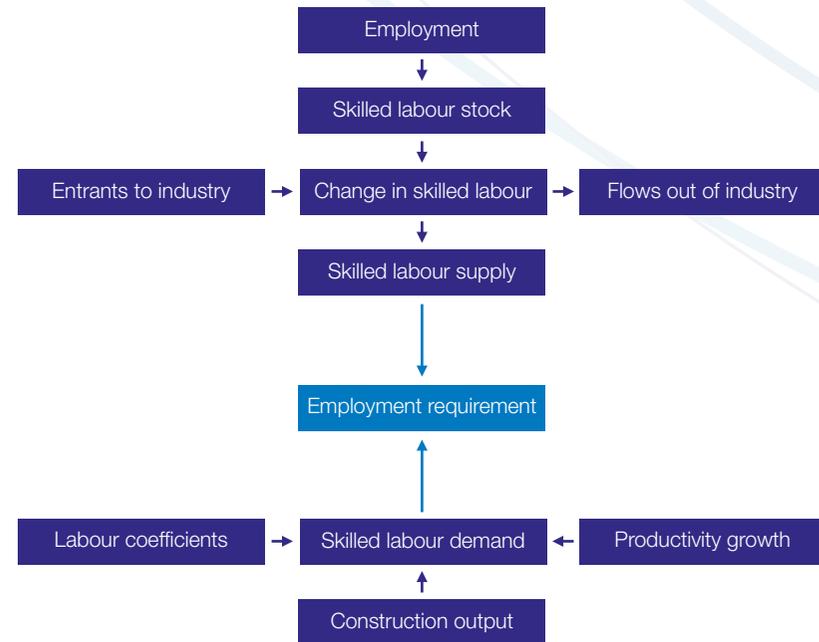
Demand is based upon the results of discussion groups comprising industry experts, a view of construction output and a set of integrated models relating to wider national and regional economic performance.



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.



Source: Experian

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 annual recruitment 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.

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 Department for Business Enterprise and Regulatory Reform (DBERR) 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.

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 Department for Business Enterprise and Regulatory Reform (DBERR) on a current price basis. Thus national deflators produced by the DBERR 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.

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

SummitSkills

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

AssetSkills

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

Energy 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.

	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

Appendix IV – Occupational groups

Bricklayers and building envelope specialists

Bricklayers, masons 5312
Construction trades nec* (50%) 5319
Labourers in building and woodworking trades (5%) 9121

Roofers

Roofers, roof tilers and slaters 5313

Plumbing and heating, ventilation, and air conditioning trades

Plumbing and HVAC trades 5314
Pipe fitters 5216
Labourers in building and woodworking trades (6%) 9121
Construction trades nec* (5%) 5319

Electrical trades and installation

Electricians, electrical fitters 5241
Electrical/electronic engineers nec* 5249
Telecommunications engineers 5242
Lines repairers and cable jointers 5243

Civil engineering operatives not elsewhere classified (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

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

Scaffolders

Scaffolders, staggers, riggers 8141

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

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

Labourers (nec*)

Labourers in building and woodworking trades (80%) 9121

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

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

Specialist building operatives not elsewhere classified (nec*)

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

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

Construction professionals and technical staff

Civil engineers 2121
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
Architects 2431
Town planners 2432
Quantity surveyors 2433
Chartered surveyors (not Quantity surveyors) 2434

Electronics engineers 2124
Building inspectors 3123

Painters and decorators

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

Plasterers and dry Liners

Plasterers 5321

Glaziers

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

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

Other professionals/technical staff and IT

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



*Nec – not elsewhere classified

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

Senior and executive managers

Directors and chief executives of major organisations 1112
Senior officials in local government 1113
Business process managers
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

Business process managers

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

Office-based staff (excl. managers)

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

Floorers

Floorers and wall tilers 5322

Appendix V – CSN website and contact details

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



The CSN website

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 www.cskills.org/csn

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.



CITB-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 this primary data.

The diary of upcoming events in Observatory Essentials allows Members to stay in touch with CSN developments. This area also includes all feedback documentation from the current round

of workshops, giving members all the relevant information they need in one place.

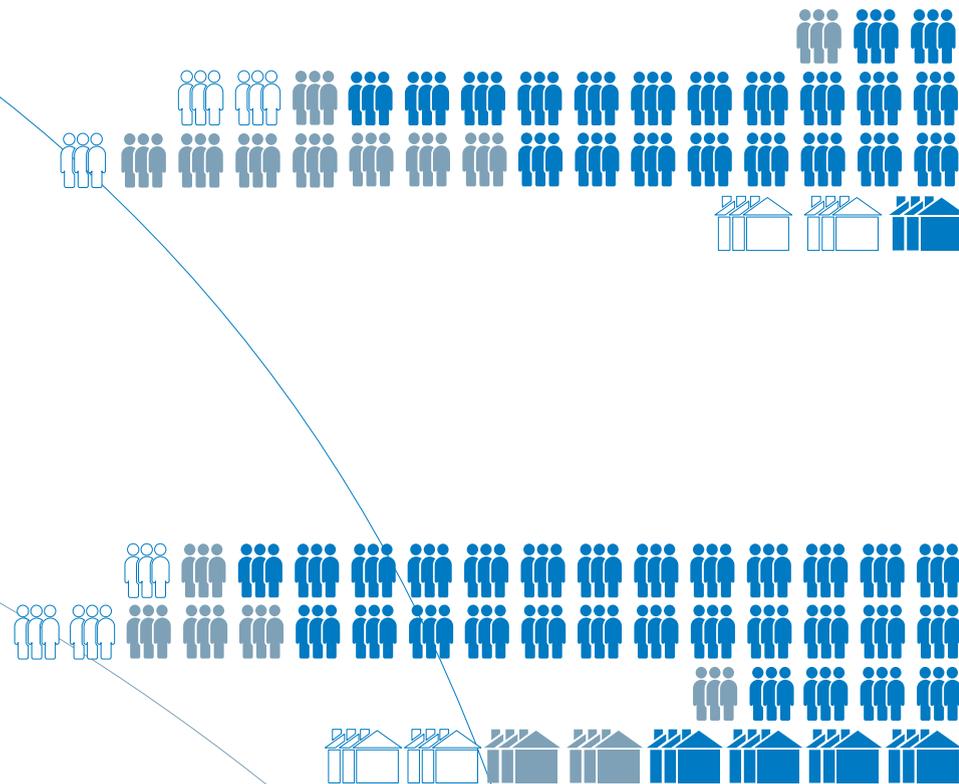
Contact details

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

For further information about the CSN website, or to register your interest in joining the CSN, please contact Sally Riley, Researcher, at sally.riley@cskills.org



All the tables in this regional document, and the other regional and national documents, can be found on the website www.cskills.org/csn



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CITB-ConstructionSkills, CIC and CITB Northern Ireland are working as ConstructionSkills, the Sector Skills Council for Construction.
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Part of the Skills for Business network of 25 employer-led Sector Skills Councils.