2007-2011 Construction Skills Network Labour Market Intelligence

Wales

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1. Headlines

1. Headlines

1.1 Welsh Economy

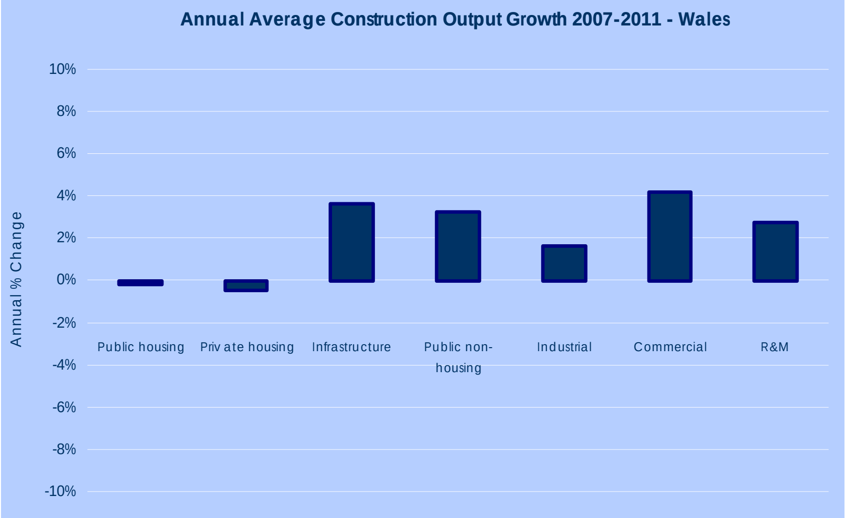
- Worth £39bn in 2005 (around 4% of the total UK economy), the Welsh economy is forecast to grow at an annual average rate of 2.7% between 2007 and 2011.
- The Public Sector is of greater importance in Wales than it is elsewhere in the UK. Financial & Business Services accounts for a much smaller share of output than the national average, but is forecast to expand rapidly.
- The fastest growing sector over the forecast period is expected to be transport & communications.

1.2 Construction Output in Wales

- Worth £3.1bn in 2005, in 2000 prices, construction in Wales also accounts for around 4% of the UK total.
- Output is forecast to grow at a annual average rate of 2.5% between 2007 and 2011.
- The infrastructure and commercial sectors will drive growth as work around Milford Haven steps up a gear, phase 2 of the South Hook project comes on stream and construction begins on several large mixed use developments.
- On the whole construction output growth in Wales is forecast to be roughly in line with the UK average.

1.3 Construction Employment in Wales

- Total construction employment of 92,940 in 2005 in Wales is forecast to rise by 20% to 111,660 by 2011.
- To meet this demand, after taking account of those entering and leaving the industry, Wales requires an extra 5,090 workers each year.
- Wood Trades & Interior Fit-out has the largest annual requirement as it is by far the largest occupational grouping in Wales.



Source: Experian

Regional Comparison 2007-2011	Annual Average % Change in Output	Growth in Total Employment	Total Average Annual Requirement
North East	1.3%	4,380	3,300
Yorkshire and Humber	1.9%	16,110	6,090
East Midlands	1.9%	13,340	5,210
East of England	3.5%	36,360	10,160
Greater London	4.5%	42,350	12,880
South East	3.2%	41,390	13,560
South West	1.9%	16,350	6,360
Wales	2.5%	9,080	5,090
West Midlands	1.6%	16,070	6,340
Northern Ireland	4.3%	8,790	2,940
North West	1.4%	19,260	8,830
Scotland	1.5%	17,800	6,830
UK	2.6%	241,280	87,590

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

2. The Outlook for Construction in Wales

2. The Outlook for Construction in Wales

2.1 Construction Output in Wales – Overview

Between 2001 and 2004, construction output in Wales enjoyed its longest period of continuous growth, in real terms, for over 15 years (see graph below). Robust growth in new work output was the main driver as the housing market boom had a knock-on effect on construction and as the Welsh Assembly increased its capital investment in health and education.

As a result, construction output in Wales increased by an annual average rate of 7.3% between 2001 and 2005, rising from £2.4bn in 2001 to £3.1bn, in 2000 prices, in 2005. While new work was the main impetus behind this buoyancy, annual average growth of 4.3% in the R&M sector also made a significant contribution.

Output in all but one of the new work sectors expanded robustly during the 2001 to 2005 period. The public non-housing and industrial sectors both saw their output increase by an annual average rate of around 16%, an exceptionally strong rate of growth, especially considering it is after any inflationary effects have been stripped out.

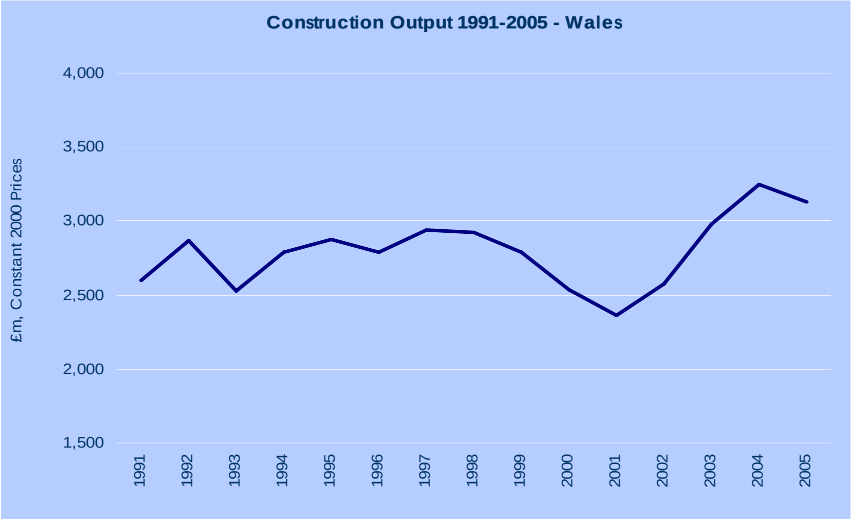
In comparison annual average growth in private housing, infrastructure and commercial sectors seemed muted. However, with respective annual average growth rates of 9.2%, 7.5% and 6.8% growth was still significant.

Public housing was the only sector to see output decline over the 2001-2005 period. By 2005 the sector was worth an estimated £35m, 16% lower than in 2001.

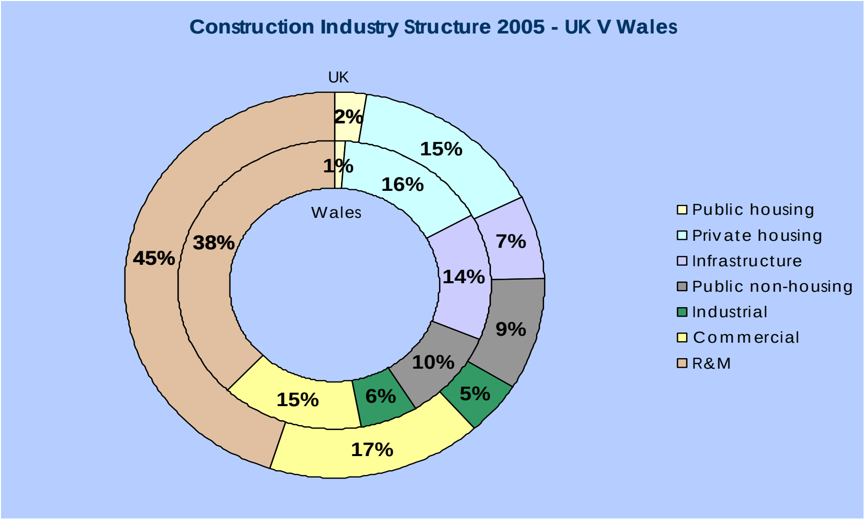
2.2 Industry Structure

The most noticeable difference between construction output in the UK and Wales in 2005 was the proportionally small share taken by the R&M sector (see chart below). While interesting, the chart below presents just a snapshot and can change over time. In the early part of the decade, for example, the share R&M output took of the total in Wales was roughly in line with the national average.

PFI health and education schemes are less prevalent in Wales than in the UK as a whole. The result is a larger than average public non-housing sector and relatively small commercial sector.



Source: Experian
Footnote: 1 (See Appendix III)



Source: DTI, DFP

2. The Outlook for Construction in Wales

2.3 Economic Overview

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

2.4 Economic Structure

In 2005 the Welsh economy was worth £39bn, in 2003 prices, 1.3% higher than in 2004 and worth around 4% of the UK total.

Public Services was the largest component of Gross Value Added (GVA) in Wales, accounting for nearly 30% of the total in 2005 (see table below). Financial & Business Services took the second largest share and was valued at 17% of the total.

Over the forecast period (2007-2011) GVA in Wales is forecast to grow by 13%. Expansion in the Public Sector is likely to moderate, while the Transport & Communications and Financial & Business Services sectors step up to drive the region forward. To 2011, GVA in these sectors is forecast to increase by 28% and 24% respectively.

2.5 Forward Looking Economic Indicators

Economic growth in Wales is forecast to be roughly in line with the national average. Underpinning this is the expected strength of consumer confidence. Growth in household spending is forecast to outstrip increases in real household disposable income to 2011 (see table below). The benefit of this should be particularly noticeable in retail and leisure.

An inevitable consequence of stronger growth in spending than in income is an increasing credit burden. By 2011 we expect the debt to income ratio in Wales to rise to 1.22. While this is much lower than in many other parts of the UK, if economic prospects were to weaken, consumer confidence in this traditionally debt-averse nation could quickly falter.

In 2005 the Department for Communities and Local Government (DCLG) reported that average house prices in Wales reached £146,000. Prices are expected to be around 14% higher in 2011 than in 2006 but house price inflation in Wales is likely to be much more moderate than across the UK as a whole.

Economic Structure - Wales (£ billion, 2003 prices)

Selected Sectors	Actual 2005	Forecast: Annual % Change, Real Terms 2006	2007	2008	2009	2010	2011
Public Services	12	2.3	1.6	1.9	2.0	2.0	2.4
Financial & Business Services	7	7.9	4.6	4.2	4.7	4.5	4.2
Transport & Communications	3	1.7	2.3	5.0	6.0	6.0	5.8
Manufacturing	7	0.9	0.7	1.2	2.0	1.9	1.8
Distribution, Hotels & Catering	6	4.4	0.8	2.2	2.9	2.8	2.7
Total Gross Value Added (GVA)	39	2.7	1.8	2.3	2.9	2.8	2.8

Source: Experian
Footnote: 3 (See Appendix III)

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

	Actual 2005	Forecast: Annual % Change, Real Terms (except *) 2006	2007	2008	2009	2010	2011
Real Household Disposable Income	33	3.2	1.9	2.4	2.6	2.5	2.4
Household Spending	30	2.1	2.2	2.6	3.3	3.2	2.9
Debt:Income Ratio*	1.0	1.05	1.10	1.14	1.16	1.19	1.22
House Prices (£'000, current prices)	146	6.0	2.2	1.7	2.3	3.5	3.7
LFS Unemployment (millions)	0.06	15.9	-9.2	-7.5	-6.3	-4.6	-1.7

Source: ONS, DCLG, Experian

2. The Outlook for Construction in Wales

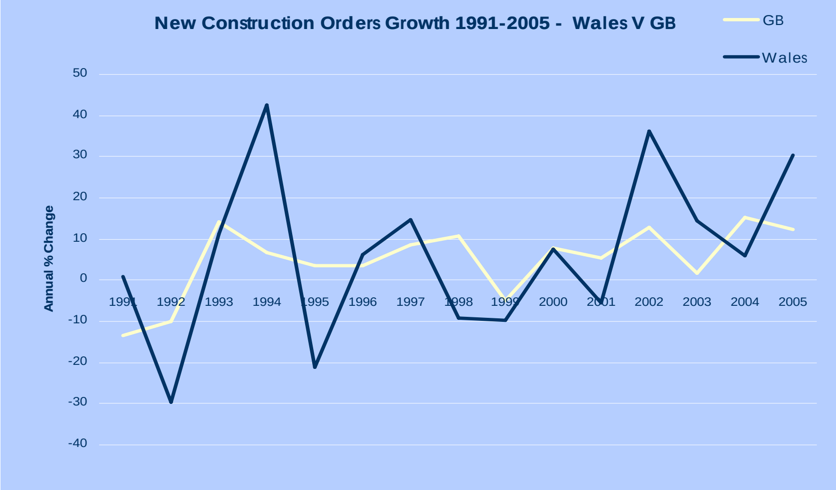
New orders statistics are based on the Department of Trade and Industry's (DTI) monthly survey of construction contractors. The time taken for new orders to feed into output differs from sector to sector and from project to project. As a general rule, industrial orders tend to be converted into output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

2.6 New Construction Orders – Overview

Since 2002 new construction orders in Wales have recorded strong year-on-year growth. In 2005 they reached £2.2bn, in current prices, more than double their value in 2000 (see chart and table below).

Prior to 2005, 2002 stands out as a particularly strong year, due to sizeable orders being placed in the public non-housing and infrastructure sectors. Overall orders were up by 36% from 2001.

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



Source: DTI
Footnote: 4 (See Appendix III)

2.7 New Construction Orders – Current Situation

Having grown by 6% in 2004, new orders rose by a further 30% in 2005. However, growth stalled in the first three quarters of 2006 and orders remained on a par with those placed in the first three quarters of 2005.

Some inertia overall in the first three quarters of 2006 conceals significant growth in commercial, public non-housing and public housing orders, and is due predominantly to a 60% decline in infrastructure orders as the Milford Haven gas terminal project dropped out of the figures.

Commercial orders increased by 76% in the first three quarters of 2006 on the corresponding figure to September 2005 and public sector new work orders were strong over the same period. Public non-housing orders rose by 38% in the first three quarters to £314m. Public housing orders were up by 78% over the same period, with the relatively small size of this sector making it particularly prone to large fluctuation.

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

	Actual	Annual % Change				
	2005	2001	2002	2003	2004	2005
Public housing	51	*-57.1*	*37.5*	*45.5*	*-39.6*	*75.9*
Private housing	622	*23.9*	*15.0*	*38.1*	*10.1*	*16.3*
Infrastructure	594	*-44.2*	*55.5*	*-40.4*	*27.6*	*206.2*
Public non-housing	294	*61.8*	*91.6*	*19.4*	*-19.4*	*-10.4*
Industrial	157	*-1.2*	*0.0*	*20.7*	*49.5*	*6.1*
Commercial	456	*-7.9*	*22.7*	*21.4*	*13.7*	*5.6*
Total New Work	2174	*-5.4*	*36.2*	*14.3*	*5.9*	*30.4*

Source: DTI
Footnote: 4 (See Appendix III)

2. The Outlook for Construction in Wales

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

Total construction output, in current prices, in Wales was 2% higher in the first half of 2006 than in the first half of 2005. Regional DTI output statistics are published in current prices, and thus are inclusive of any inflationary effect. At the time of writing DTI output statistics for the first half of 2006 are available.

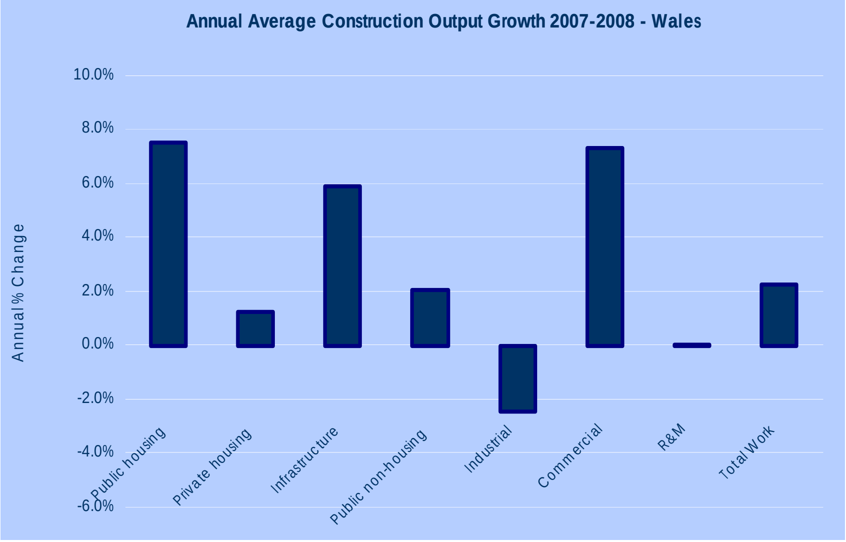
Construction output in Wales is forecast to grow moderately over the next few years, at an annual average rate of 2.3% (see chart and table below). The short-term outlook for new work is slightly stronger than for R&M, which after increasing by an estimated 3% in 2006 is unlikely to show further growth in either 2007 or 2008.

The decline in the public housing sector is expected to come to an end in 2006 and the short-term outlook is very positive. So far current priced output has more than doubled in the first six months of 2006 and it appears that increased funding is beginning to have an effect on the ground.

Commercial output in the first six months of 2006 has been subdued. Post 2006, however, an improvement is imminent as work accelerates on the St David's 2 Shopping Centre in Cardiff and other substantial projects start on site.

The infrastructure and public non-housing sectors saw output decline in the first half of 2006 by 12% and 3% respectively. While we expect public non-housing output to be stronger in the second half of the year, an improvement in infrastructure is unlikely until 2007. To 2008 an annual average growth rate of 5.9% in the infrastructure sector is based on the construction of a new gas terminal at Milford Haven.

Slower growth in house prices and concern about affordability seems to be having an impact on confidence in the private housing construction sector. In the first half of 2006 current priced output was up by just 6% on the corresponding part of 2005. Overall 2006 is expected to be a reasonably good year but scope for further growth over the short-term is likely to be limited.



Source: Experian
Footnote: 2 (See Appendix III)

Construction Output - Wales (£ million, 2000 prices)

	Actual 2005	Forecast Annual % Change 2006	2007	2008	Annual Average 2007-2008
Public housing	35	*65%*	*12%*	*4%*	*7.5%*
Private housing	495	6%	0%	3%	*1.2%*
Infrastructure	444	-8%	6%	6%	*5.9%*
Public non-housing	322	3%	2%	2%	*2.0%*
Industrial	188	10%	-5%	0%	*-2.4%*
Commercial	457	2%	10%	5%	*7.3%*
New Work	1,940	*3%*	*4%*	*4%*	*3.6%*
R&M	1,193	*3%*	*0%*	*0%*	*0.0%*
Total Work	3,133	*3%*	*2%*	*2%*	*2.3%*

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

2. The Outlook for Construction in Wales

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

Over the longer term, output is forecast to rise by an annual average rate of 2.5%. New work growth is expected to moderate post 2008, while prospects for R&M strengthen (see the chart and table below for forecasts).

Strong consumer optimism and expansion in Financial and Business Services bode well for the commercial sector. From 2007 growth is likely to be robust in retail, leisure and office construction. The pipeline includes a 25 year, £1bn programme to redevelop the former BP oil refinery site at Coed Darcy, a film studio project near Pontyclun and a mixed use development at Fernhill Colliery. Commercial is forecast to be Wales' strongest sector to 2011.

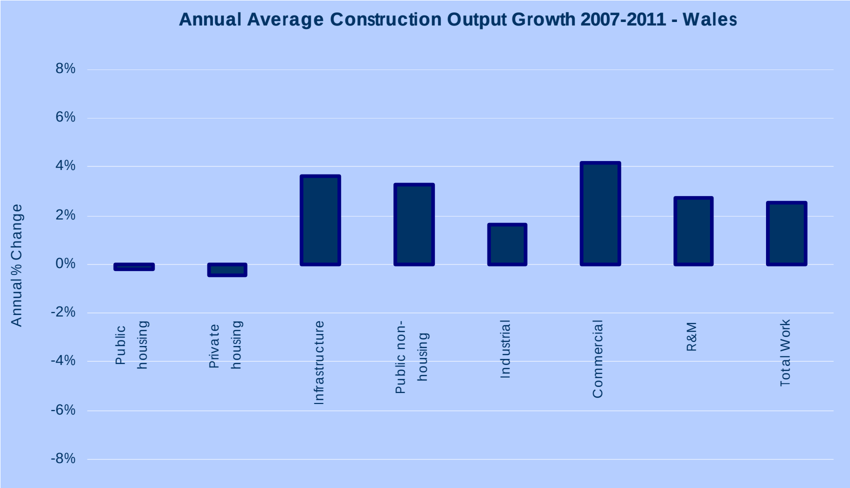
R&M will be dominated by work on public housing in the latter stages of the forecast period as the Assembly aims to bring all existing social housing up to their Housing Quality Standard by 2012. We envisage activity in this area will pick up significantly in 2009 as the 2012 deadline looms.

In 2009 the industrial sector is forecast to return to growth as prospects for manufacturing improve.

Improving transport is a key issue for the Welsh Assembly and post 2008 any growth in the infrastructure is expected to be driven by work on roads. Annual average growth of around 3.6% is forecast for infrastructure in Wales between 2007 and 2011.

For housing the outlook is less positive. The state of the housing market is the main driver of private housing construction and to 2011 housing market conditions are expected to be considerably less buoyant than they have been in the recent past. While a negative annual average change of -0.5% is forecast, it is marginal and follows a 38%, real term expansion between 2000 and 2005. In terms of public housing, rapid growth in the early part of the forecast period is unsustainable over the longer term. From 2009 prospects are more subdued.

Public non-housing output is forecast to rise by an annual average rate of 3.3% to 2011 as improving health and education facilities remains a priority for the Welsh Assembly. However, the potential for growth in delivering such facilities via the PFI route poses a medium term risk to our forecast.



Source: Experian
Footnote: 2 (See Appendix III)

Construction Output - Wales (£ million, 2000 prices)

	Estimate 2006	Forecast Annual % Change 2007	2008	2009	2010	2011	Annual Average 2007-2011
Public housing	58	12%	4%	-4%	-1%	1%	-0.2%
Private housing	525	0%	3%	-2%	-3%	1%	-0.5%
Infrastructure	407	6%	6%	4%	4%	1%	3.6%
Public non-housing	331	2%	2%	3%	4%	4%	3.3%
Industrial	206	-5%	0%	3%	3%	0%	1.6%
Commercial	466	10%	5%	3%	4%	5%	4.2%
New Work	1,993	4%	4%	2%	2%	3%	2.4%
R&M	1,229	0%	0%	5%	2%	3%	2.7%
Total Work	3,222	2%	2%	3%	2%	3%	2.5%

Source: Experian
Footnote: 2 (See Appendix III)

3. Construction Employment Forecasts for Wales

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3.1 Total Construction Employment Forecasts by Occupation

This table presents actual construction employment (SIC 45 and 74.2, see Appendix III) in Wales for 2005 and the forecast total employment in 25 occupations and in the industry as a whole between 2007 to 2011. By 2011 total employment in construction in Wales is expected to stand at around 111,660, with approximately 18,720 more people being employed in the industry than in 2005. 102,310 people will be classified as working in SIC 45 in 2011, with 9,350 falling under the SIC 74.2 umbrella.

The largest occupational groups are forecast to be Wood Trades & Interior Fit-out, Non-construction Operatives, Construction Professionals & Technical Staff and Labourers nec, each with employment forecast at over 7,000 in Wales in 2011.

Scaffolders are forecast to see the greatest proportional increase in its employment, with total employment expected to rise by 20% between 2007 and 2011. Increases of more than 10% are also forecast for Bricklayers, Building Envelope Specialists, Plant Mechanics/Fitters, Senior & Executive Managers, Painters & Decorators and Non-construction Operatives.

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

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

Total Employment by Occupation - Wales

	Actual	Forecast	
	2005	2007	2011
Senior & Executive Managers	150	170	190
Business Process Managers	2,900	3,160	3,380
Construction Managers	5,600	6,070	6,460
Office-based Staff (excl. Managers)	4,940	5,340	5,570
Other Professionals/Technical Staff & IT	1,510	1,520	1,600
Wood Trades & Interior Fit-out	10,920	11,690	12,770
Bricklayers	3,440	3,940	4,620
Building Envelope Specialists	3,730	4,270	5,000
Painters & Decorators	5,260	5,880	6,550
Plasterers & Dry Liners	2,050	2,270	2,410
Roofers	1,180	1,310	1,420
Floorers	1,850	2,020	2,180
Glaziers	2,310	2,440	2,580
Specialist Building Operatives nec	3,280	3,660	3,970
Scaffolders	800	920	1,100
Plant Operatives	1,880	2,020	2,180
Plant Mechanics/Fitters	480	510	590
Steel Erectors/Structural	1,760	1,960	2,080
Labourers nec	6,710	7,530	7,960
Electrical Trades & Installation	3,580	3,850	4,030
Plumbing & HVAC Trades	5,620	6,390	6,880
Logistics	1,390	1,640	1,780
Civil Engineering Operatives nec	3,490	4,080	4,460
Non-construction Operatives	10,150	11,170	12,550
Construction Professionals & Technical Staff	7,960	8,770	9,350
Total (SIC 45)	**84,980**	**93,810**	**102,310**
Total (SIC 45 & 74.2)	**92,940**	**102,580**	**111,660**

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

3. Construction Employment Forecasts for Wales

3.2 Construction Average Annual Requirements by Occupation

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

To meet forecast demand for construction workers in Wales it is estimated that 5,090 additional workers will be required each year over the 2007-2011 period.

Wood Trades & Interior Fit-out is forecast to have the greatest Average Annual Requirement at 870. At 520, the requirement for Construction Professionals & Technical Staff is also significant.

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

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

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

Average Annual Requirement by Occupation - Wales

	2007-2011
Senior & Executive Managers	<50
Business Process Managers	170
Construction Managers	140
Office-based Staff (excl. Managers)	380
Other Professionals/Technical Staff & IT	250
Wood Trades & Interior Fit-out	870
Bricklayers	150
Building Envelope Specialists	160
Painters & Decorators	210
Plasterers & Dry Liners	70
Roofers	60
Floorers	140
Glaziers	50
Specialist Building Operatives nec	150
Scaffolders	90
Plant Operatives	250
Plant Mechanics/Fitters	130
Steel Erectors/Structural	140
Labourers nec	270
Electrical Trades & Installation	260
Plumbing & HVAC Trades	270
Logistics	160
Civil Engineering Operatives nec	190
Construction Professionals & Technical Staff	520
Total (SIC 45)	**4,570**
Total (SIC 45 & 74.2)	**5,090**

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

4. Regional Comparisons

4. Regional Comparisons

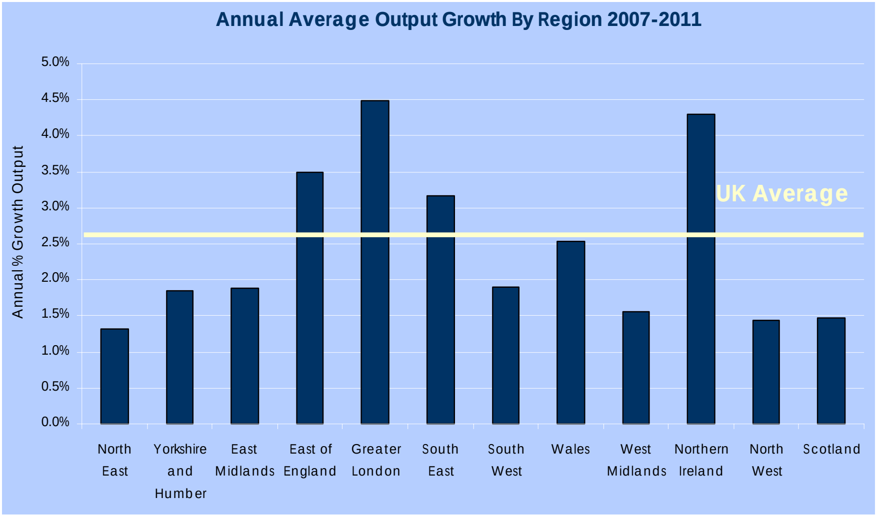
Construction output in Greater London is forecast to see strong year-on-year growth throughout the forecast period as infrastructure recovers and housing and commercial sectors continue to thrive. Prospects are also good for Northern Ireland, the East of England and the South East.

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

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

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

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



Source: Experian
Footnote: 2 (See Appendix III)

Source: CSN, Experian

Appendix I - Methodology

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Background

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

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

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

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

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

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

The Model Approach

The model approach relies on a combination of primary research and views from the CSN to facilitate it. National data is used as the basis for the assumptions that augment the model, which is then adjusted with the assistance of the Observatories and National Group. Each English region, Wales, Scotland and Northern Ireland has a separate model (although all models are inter-related due to labour movements) and, in addition, there is one national UK model that acts as a constraint to the individual models and enables best use to be made of the most robust data (which is available at the national level). The models work by forecasting demand and supply of skilled workers separately. The difference between demand and supply forms the employment requirement.

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

The **Average Annual Requirement** is a gross requirement that takes into account the dynamic factors influencing all of the flows into and out of construction employment**,** such as movement to and from other industries, migration, sickness, and retirement. Young trainees are not included in the flows. Therefore, the Average Annual Requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

Appendix I - Methodology

Demand is based upon the results of discussion groups comprising industry experts, a view of construction output and a set of integrated models relating to wider national and regional economic performance. The model is dynamic and reflects the general UK economic climate at any point in time. To generate the labour demand, the model makes use of a set of specific statistics for each major type of work (labour coefficients) that determine the employment, by trade, needed to produce the predicted levels of construction output. The labour supply for each type of trade or profession is based upon the previous years' supply (the total stock of employment) combined with flows into and out of the labour market.

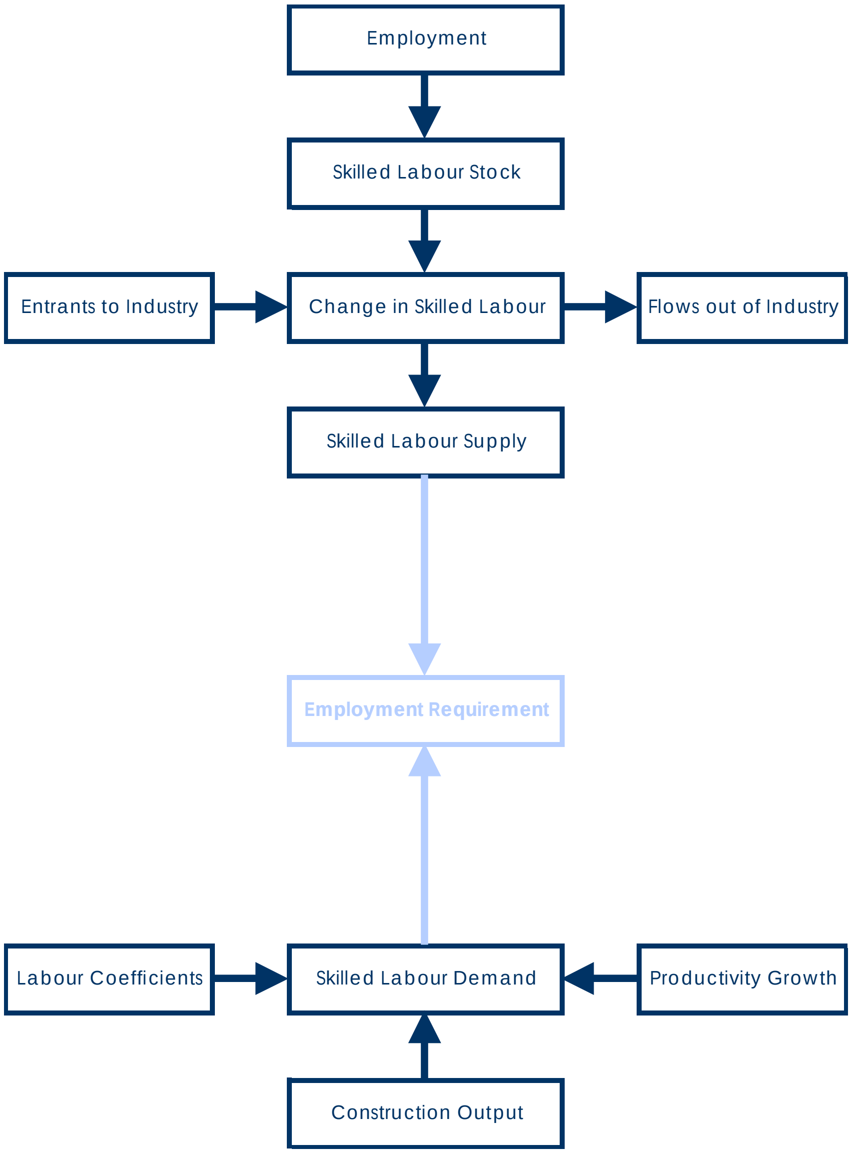
The key leakages (outflows) that need to be considered are:

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

The main reason for outflow is likely to be transfer to other industries. Flows into the labour market include:

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

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



Source: Experian

Appendix II – Glossary of Terms

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

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

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

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

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

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

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

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

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

- **Productivity** – output per employee

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

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

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

- **SOC Codes** – Standard Occupational Classification Codes

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

Appendix III – Footnotes & Footprints

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Footnotes

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

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

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

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

5. Employment numbers are rounded to the nearest 10.

6. The tables include data relating to Plumbers and Electricians. As part of SIC 45, Plumbers and Electricians working in contracting are an integral part of the construction process. However, it is recognised by ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC codes, including SIC 45.31 and 45.33.

Footprints for Built Environment SSCs

The table summarises the SIC codes covered by ConstructionSkills.

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

* AssetSkills has a peripheral interest in SIC 74.2

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

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

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

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

Appendix IV – Occupational Groups (SOC codes)

Appendix IV – Occupational Groups

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

Roofers
Roofers, roof tilers & slaters 5313

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

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

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

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

Scaffolders
Scaffolders, stagers, riggers 8141

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

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

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

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

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

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

Appendix IV – Occupational Groups

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

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

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

Plasterers & Dry Liners
Plasterers 5321

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

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

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

Appendix IV – Occupational Groups

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

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

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

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

Floorers
Floorers and wall tilers 5322

Appendix V – CSN Website

Appendix V – CSN Website & Contact Details

The CSN Website

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

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

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

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

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

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

The new CSN Website is found here at
http://www.constructionskills.net

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

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

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

For more information about us as a Sector Skills Council visit:
http://www.constructionskills.net

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

Contact Details

For enquiries relating to the work of the CSN please contact Sandra Lilley, CSN Manager, at
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For further information about the CSN website, or to register your interest in joining the CSN please contact Sally Riley, Researcher, at
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