

# 2007-2011 Construction Skills Network Labour Market Intelligence

Northern Ireland

**Construction Skills Network**

**experian**<sup>®</sup>

**construction**skills

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# 1. Headlines

**Construction Skills Network**



# 1. Headlines

## 1.1 Northern Ireland's Economy

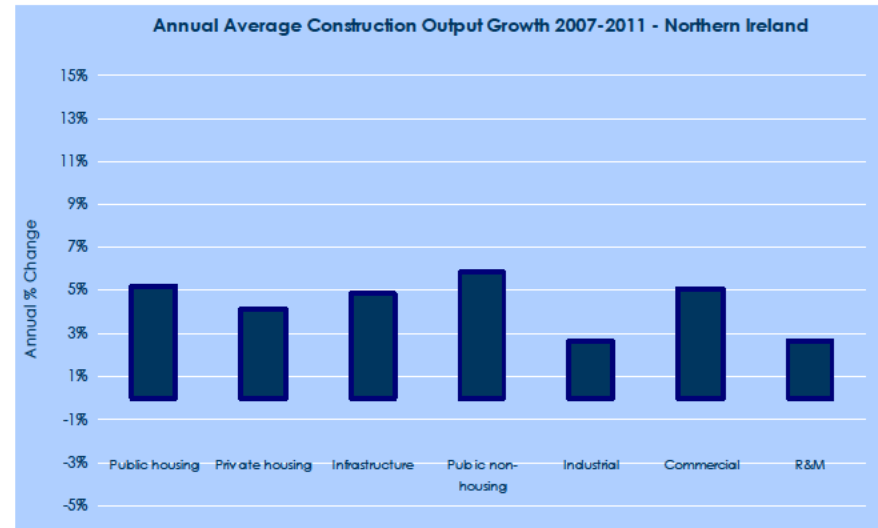
- Worth £23bn in 2005 (around 2% of the total UK economy), Northern Ireland's economy is forecast to grow at an annual average rate of 2.9% between 2007 and 2011.
- The Public Sector is of greater importance in Northern Ireland than it is elsewhere in the UK. Financial & Business Services accounts for 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 Northern Ireland

- Worth £2.1bn, in 2000 prices, construction output in Northern Ireland accounted for nearly 3% of the UK total in 2005.
- Output is forecast to grow at an annual average rate of 4.3% between 2007 and 2011.
- The public non-housing and commercial sectors will drive growth as the government invests in improving health and education facilities and as work accelerates on the Titanic and Royal Exchange projects.

## 1.3 Construction Employment in Northern Ireland

- Total construction employment of 74,300 in 2005 in Northern Ireland is forecast to rise by 21% to 90,030 by 2011.
- To meet this demand, after taking account of those entering and leaving the industry, Northern Ireland requires an extra 2,940 workers each year.
- Wood Trades & Interior Fit-out is forecast to have the largest annual requirement, although the requirements for Bricklayers and Building Envelope Specialists are also significant.



Source: Experian

## Regional Comparison 2007-2011

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

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

## 2. The Outlook for Construction in Northern Ireland

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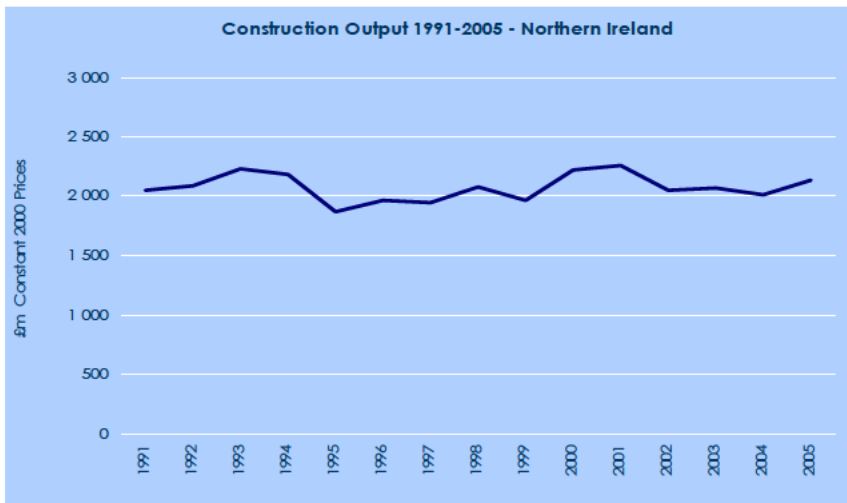
## 2. The Outlook for Construction in Northern Ireland

### 2.1 Construction Output in Northern Ireland – Overview

In 2005 construction output reached £2.1bn, in 2000 prices, 6% higher than in 2004. Since 2000, the performance of the Northern Ireland construction industry has been quite varied. Growth in 2000, 2001 and 2003 was interspersed with declines in 2002 and 2004, although growth on the repair and maintenance (R&M) side has been more consistent than in new work.

The performance of construction in Northern Ireland over the past 15 years has been relatively weak. The region's instability was almost certainly a factor, helping discourage private capital investment, and most non-essential public investment. Furthermore its proximity to the Republic of Ireland, whose relative economic strength and subsequent construction industry boom during this time, did not help its position. Output in Northern Ireland in 2005 was only 4% higher than it was in 1991, compared to an increase of 22% nationally.

Overall output declined at an annual average rate of 1.4% between 2001 and 2005, although sectoral performances varied considerably.



Source: Experian

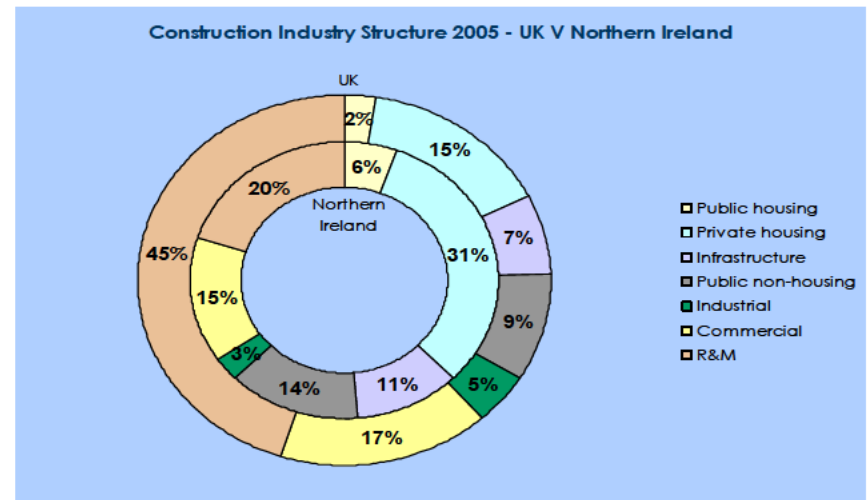
Footnote: 1 (See Appendix III)

Infrastructure sector output, for example, increased by an exceptionally robust annual average rate of 11.5%. Public housing and R&M output also rose each year, on average over this period, although at a slower rate than the infrastructure sector, increasing by annual average rates of 3.1% and 1.5% respectively.

### 2.2 Industry Structure

New work output is significantly more prominent in Northern Ireland's total industry than is it in the UK as a whole. As a result R&M output accounted for just 20% of the total in Northern Ireland in 2005, compared to a 45% share nationally. This could be in part due to the legacy of the conflict, particularly by having discouraged investment in its built environment for a prolonged period.

Particularly noticeable is the size of the private housing sector in Northern Ireland. This coincides with relatively small output in the housing R&M sector, once again suggesting the current focus is generally on new build rather than maintaining the existing stock.



Source: DTI, DFP

## 2. The Outlook for Construction in Northern Ireland

### 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 Northern Ireland's economy was worth approximately £23bn, in 2003 prices, 2.6% higher than in 2004 and around 2% of the UK total.

Public Services is the largest component of Gross Value Added (GVA) in Northern Ireland, accounting for nearly a third of the total in 2005 (see table below). Manufacturing and Distribution, Hotels & Catering both take the second largest share, each contributing around 17% of the total.

Over the forecast period (2007-2011) GVA in Northern Ireland is forecast to grow by 12%. Going forward growth in the Transport & Communications sector will help to propel the region forward, with GVA in this sector expected to increase by nearly 32%. Financial & Business Services should expand at a similarly robust rate, with the sector forecast to be 27% larger in 2011 than in 2007.

Selected Sectors	Actual 2005	Forecast Annual % Change, Real Terms					
		2006	2007	2008	2009	2010	2011
Public Services	8	2.3	1.7	1.8	1.7	1.5	1.8
Financial & Business Services	3	9.2	3.8	5.7	6.5	6.3	6.0
Transport & Communications	1	5.4	8.4	7.9	7.3	6.8	6.5
Manufacturing	4	2.0	2.5	1.8	2.7	2.9	3.5
Distribution, Hotels & Catering	4	4.4	1.4	2.2	3.1	3.3	3.4
<b>Total Gross Value Added (GVA)</b>	<b>23</b>	<b>3.0</b>	<b>2.3</b>	<b>2.5</b>	<b>3.0</b>	<b>3.0</b>	<b>3.1</b>

Source: Experian

Footnote: 3 (See Appendix III)

### 2.5 Forward Looking Economic Indicators

Economic growth in Northern Ireland is forecast to be a little stronger than across the UK as a whole. Underpinning this is the expected strength of consumer confidence. In real terms, household spending is forecast to increase by nearly 10% between 2007 and 2011 (see table below), which bodes well for the retail and entertainment sub-sectors.

However, people in Northern Ireland tend to be averse to accumulating debt, relative to the rest of the UK. In 2005 the debt-to-income ratio stood at just 0.8, compared to 1.5 nationally. Going forward Northern Ireland's debt-to-income ratio is forecast to increase a little but remain significantly lower than that for the UK as a whole. By 2011 it is expected to reach 1.1, compared to 1.7 nationally.

According to the Department for Communities and Local Government (DCLG) average house prices in Northern Ireland reached £130,000 in 2005. While this falls below the national average, recent rapid inflation in the region means the gap is closing. By 2011, the average house price in Northern Ireland is expected to be nearly 50% higher than in 2005.

	Actual 2005	Forecast Annual % Change, Real Terms					
		2006	2007	2008	2009	2010	2011
Real Household Disposable Income	19	1.6	1.7	1.9	2.2	2.6	2.9
Household Spending	18	3.2	2.1	1.5	2.4	2.7	2.7
Debt Income Ratio	0.8	0.9	0.9	1.0	1.0	1.0	1.1
House Prices (£'000, current prices)	130	14.7	8.1	4.6	4.5	4.8	4.8
LFS Unemployment (millions)	0.04	3.1	4.4	1.6	-2.1	-0.9	0.0

Source: ONS, DCLG, Experian

## 2. The Outlook for Construction in Northern Ireland

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

Total construction output, in current prices, in Northern Ireland was 9% higher in the first half of 2006 than in the first half of 2005. Construction output statistics for Northern Ireland are compiled by the Department of Finance and Personnel (DFP). At the time of writing DFP output statistics for the first half of 2006 are available.

Construction output in Northern Ireland is forecast to grow relatively strongly over the next few years, at an annual average rate of 4% (see chart and table below). The short-term outlook is equally good for both the new work and R&M sectors.

Northern Ireland's commercial sector was one of the star performers in the first half of 2006. At £253m, in current prices, output was up by 33% on the first half of 2005. The outlook remains extremely positive and in the short-term output is forecast to grow at an annual average rate of 4.1%.

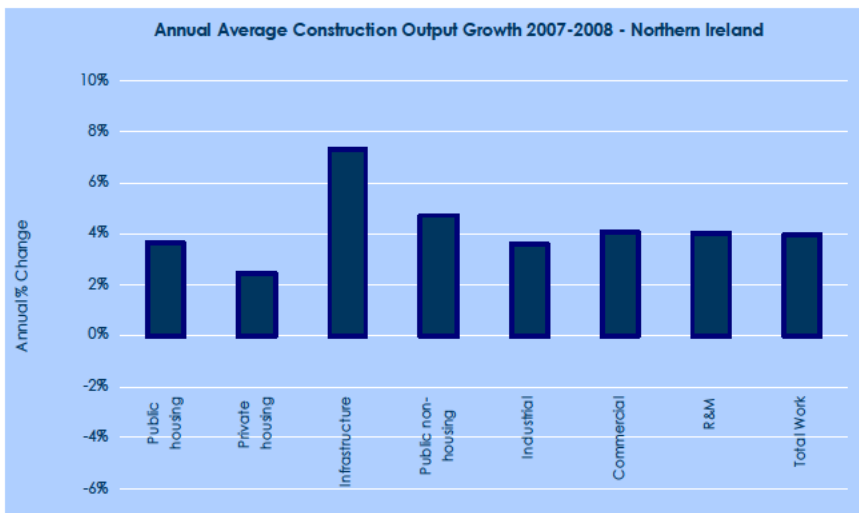
The public housing sector also had a particularly strong first half of 2006. Output increased by a substantial 39%, although the

small size of this sector means it is prone to large fluctuations in percentage terms. Public sector investment in public housing is set to continue over the next few years at an average rate of 3.7%. Private housing output climbed 9% in the first half of 2006 and the sector is likely to continue to grow year-on-year to 2008.

Infrastructure sector output is forecast to get progressively stronger over the next few years. In the first half of 2006 current priced infrastructure output was 6% higher than in the first half of 2005 but by 2008 the sector is forecast to be increasing by around 10% in real terms.

For the public non-housing and industrial sectors the first half of 2006 was much more subdued, with output down by 14% and 10% respectively. However, indicators suggest a recovery is imminent in both sectors. Over the short-term the public non-housing sector is forecast to grow at an annual average rate of 4.7% and the industrial sector by 3.6%.

R&M output was 8% higher in the first half of 2006 than in the first half of 2005 and the sector is forecast to grow by an average of around 4% of the next few years.



Source: Experian

Footnote: 2 (See Appendix III)

Construction Output - Northern Ireland (£ million, 2000 prices)					
	Actual 2005	Forecast Annual % Change			Annual Average 2007-2008
		2006	2007	2008	
Public housing	118	8%	3%	4%	3.7%
Private housing	683	1%	2%	3%	2.4%
Infrastructure	236	3%	5%	10%	7.3%
Public non-housing	294	-5%	3%	7%	4.7%
Industrial	60	2%	3%	4%	3.6%
Commercial	314	3%	4%	5%	4.1%
<b>New Work</b>	<b>1 706</b>	<b>1%</b>	<b>3%</b>	<b>5%</b>	<b>3.9%</b>
R&M	429	6%	5%	3%	4.0%
<b>Total Work</b>	<b>2 135</b>	<b>2%</b>	<b>3%</b>	<b>5%</b>	<b>4.0%</b>

Source: DFP, Experian

Footnote: 1 & 2 (See Appendix III)



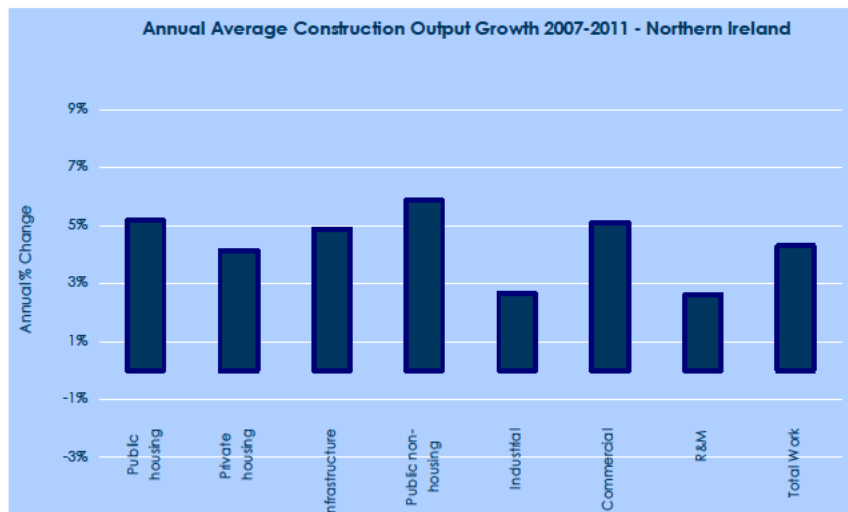
## 2. The Outlook for Construction in Northern Ireland

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

Over the longer term, output is forecast to rise by an annual average rate of 4.3%. New work growth is expected to be sustained post 2008, while R&M expansion moderates a little (see chart and table below).

Commercial construction in Northern Ireland is expected to thrive during the forecast period. Strong economic prospects generally bode well for the commercial sector, both by raising demand for high quality office space and by encouraging retail and leisure companies to invest. Alongside this, construction on both Belfast's £1bn waterside regeneration project, Titanic, incorporating several large mixed-use developments, and the £360m Royal Exchange retail scheme will accelerate.

In the past public procurement in Northern Ireland has tended to be via a traditional route. However, a proportion of roads, health and education work is now being delivered by the private sector. Robust growth is forecast for the public non-housing sector despite this and annual average growth is expected to be around 5.8% between 2007 and 2011.



Source: Experian  
Footnote: 2 (See Appendix III)

The outlook is also optimistic for the infrastructure sector. The roads and water sub-sectors should see an increase in activity over the next few years as Investment Strategy funding is spent. In 2006 financial close was reached on Northern Ireland's Department for Regional Development's £139m PFI contract for a range of road works. Work should start on all of these schemes shortly.

Greater investment in affordable housing should fuel a public housing construction boom during the forecast period. Output is forecast to rise by around 5.2% on average each year. A slightly less buoyant outlook on the private side reflects problems with obtaining planning permission in Northern Ireland and demand for housing is expected to remain strong.

Between 2007 and 2011, output in both the industrial and R&M sectors is forecast to increase at an annual average rate of 2.6%. Expansion in Northern Ireland's retail sector is likely to stimulate demand for warehouses while relatively strong growth in manufacturing suggests the outlook for factories construction is better here than elsewhere in the UK. R&M activity growth is likely stem from both the public and private sectors, with public non-housing R&M output increasing particularly strongly.

Construction Output - Northern Ireland (£ million, 2000 prices)

	Estimate 2006	Forecast Annual % Change					Annual Average 2007-2011
		2007	2008	2009	2010	2011	
Public housing	128	3%	4%	5%	6%	6%	5.2%
Private housing	691	2%	3%	4%	5%	5%	4.2%
Infrastructure	244	5%	10%	7%	2%	1%	4.9%
Public non-housing	280	3%	7%	7%	7%	3%	5.8%
Industrial	61	3%	4%	4%	2%	0%	2.6%
Commercial	324	4%	5%	6%	6%	4%	5.1%
<b>New Work</b>	<b>1 728</b>	<b>3%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>4%</b>	<b>4.7%</b>
R&M	455	5%	3%	4%	3%	0%	2.6%
<b>Total Work</b>	<b>2 184</b>	<b>3%</b>	<b>5%</b>	<b>5%</b>	<b>4%</b>	<b>3%</b>	<b>4.3%</b>

Source: Experian  
Footnote: 2 (See Appendix III)

### 3. Construction Employment Forecasts for Northern Ireland

### 3. Construction Employment Forecasts for Northern Ireland

#### 3.1 Total Construction Employment Forecasts by Occupation

The table, right, presents actual construction employment (SIC 45 and 74.2, see Appendix III) in Northern Ireland for 2005 and forecast total employment in 25 occupations and in the industry as a whole between 2007 to 2011. By 2011 total employment in construction in Northern Ireland is expected to stand at around 90,030, with approximately 15,730 more people being employed in the industry than in 2005. 85,270 people will be classified as working in SIC 45 in 2011, with 4,760 falling under the SIC 74.2 umbrella.

The largest occupational groups are forecast to be Wood Trades & Interior Fit-out, Electrical Trades & Installation and Building Envelope Specialists, each with employment forecast at over 7,000 in Northern Ireland in 2011.

Steel Erectors/Structural is forecast to see the greatest proportional increase in its employment, with total employment expected to rise by 25% between 2007 and 2011. Increases of 15% or more are also forecast for Floorers, Other Professionals/Technical Staff & IT, Roofers, Building Envelope Specialists, Bricklayers and Wood Trades & Interior Fit-out.

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.

\*not elsewhere classified

Total Employment by Occupation - Northern Ireland			
	Actual 2005	Forecast	
		2007	2011
Senior & Executive Managers	860	870	880
Business Process Managers	1,980	2,140	2,370
Construction Managers	4,170	4,610	4,930
Office-based Staff (excl. Managers)	4,720	5,230	5,870
Other Professionals/Technical Staff & IT	300	340	400
Wood Trades & Interior Fit-out	12,190	13,900	16,220
Bricklayers	4,950	5,590	6,480
Building Envelope Specialists	5,360	6,060	7,020
Painters & Decorators	3,530	3,880	4,220
Plasterers & Dry Liners	2,770	3,040	3,370
Roofers	1,170	1,290	1,480
Floorers	600	700	870
Glaziers	1,210	1,240	1,300
Specialist Building Operatives nec	1,770	1,950	2,130
Scaffolders	170	170	180
Plant Operatives	2,300	2,470	2,750
Plant Mechanics/Fitters	940	1,140	1,270
Steel Erectors/Structural	750	790	990
Labourers nec	4,560	4,700	4,870
Electrical Trades & Installation	6,730	7,320	7,680
Plumbing & HVAC Trades	5,060	5,510	6,160
Logistics	600	670	740
Civil Engineering Operatives nec	1,360	1,360	1,370
Non-construction Operatives	2,140	1,810	1,720
Construction Professionals & Technical Staff	4,110	4,460	4,760
<b>Total (SIC 45)</b>	<b>70,190</b>	<b>76,780</b>	<b>85,270</b>
<b>Total (SIC 45 &amp; 74.2)</b>	<b>74,300</b>	<b>81,240</b>	<b>90,030</b>

Source: ONS, CSN, Experian  
Footnote: 4 & 5 (See Appendix III)

### 3. Construction Employment Forecasts for Northern Ireland

#### 3.2 Construction Average Annual Requirements by Occupation

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

To meet forecast demand for construction workers in Northern Ireland it is estimated that 2,940 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 710. At 310, the requirement for Building Envelope Specialists is also significant.

Given that the skills of Office-based Staff (excl. Managers) are highly transferable, there is a high outflow of office staff from the Northern Ireland construction industry. Therefore the Average Annual Requirement for the 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 - Northern Ireland	
	2007-2011
Senior & Executive Managers	<50
Business Process Managers	100
Construction Managers	110
Office-based Staff (excl. Managers)	270
Other Professionals/Technical Staff & IT	<50
Wood Trades & Interior Fit-out	710
Bricklayers	290
Building Envelope Specialists	310
Painters & Decorators	70
Plasterers & Dry Liners	70
Roofers	90
Floorers	<50
Glaziers	<50
Specialist Building Operatives nec	70
Scaffolders	<50
Plant Operatives	90
Plant Mechanics/Fitters	50
Steel Erectors/Structural	90
Labourers nec	<50
Electrical Trades & Installation	220
Plumbing & HVAC Trades	160
Logistics	<50
Civil Engineering Operatives nec	<50
Construction Professionals & Technical Staff	140
<b>Total (SIC 45)</b>	<b>2,800</b>
<b>Total (SIC 45 &amp; 74.2)</b>	<b>2,940</b>

Source: CSN, Experian

Footnote: 4 & 5 (See Appendix III)

\*not elsewhere classified

## 4. Regional Comparisons

**Construction Skills Network**



## 4. Regional Comparisons

### 4.1 Regional Comparisons

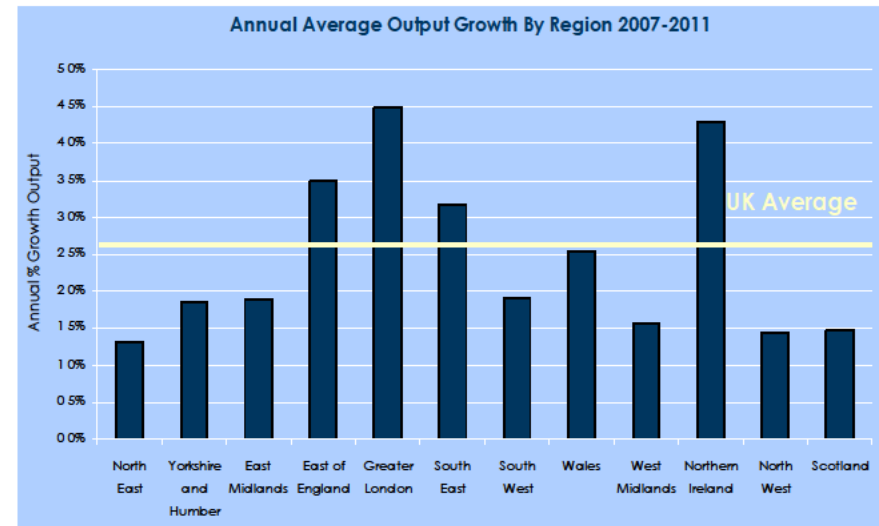
Construction output in Greater London is forecast to see strong year-on-year growth throughout the forecast period as infrastructure recovers and housing and commercial sectors continue to thrive. Prospects are also good for Northern Ireland, the East of England and the South East.

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.

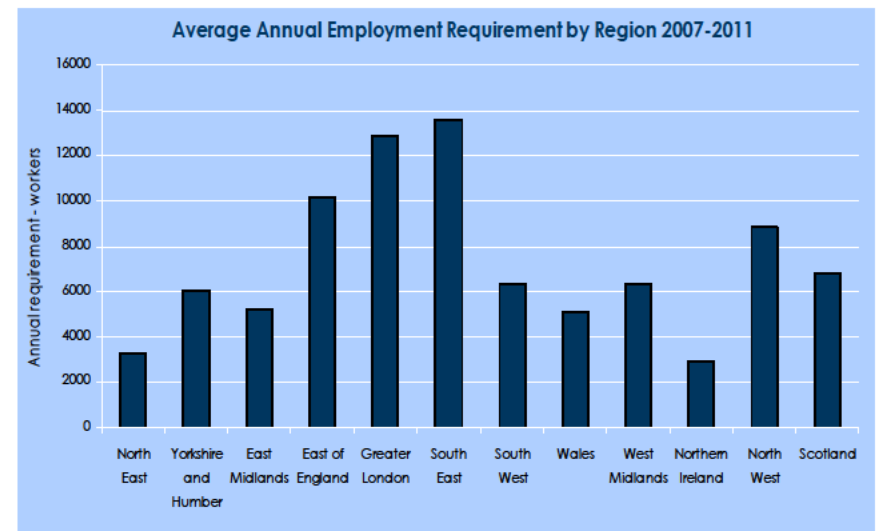
Focusing on employment, the south has the greatest need for skilled construction workers between 2007 and 2011. Inward migration into Greater London is expected to be stronger than in the South East, lowering the average annual additional requirement slightly. Nevertheless the average annual requirement 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 employment will need to rise by an average of 2,940 each year in order to meet demand, after taking into account the flows of labour out of the Northern Ireland construction industry.



Source: Experian

Footnote: 2 (See Appendix III)



Source: CSN, Experian

# Appendix I - Methodology

**Construction Skills Network**



# Appendix I - Methodology

## Background

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

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

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

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

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

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

## The Model Approach

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

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

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



## Appendix I - Methodology

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

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

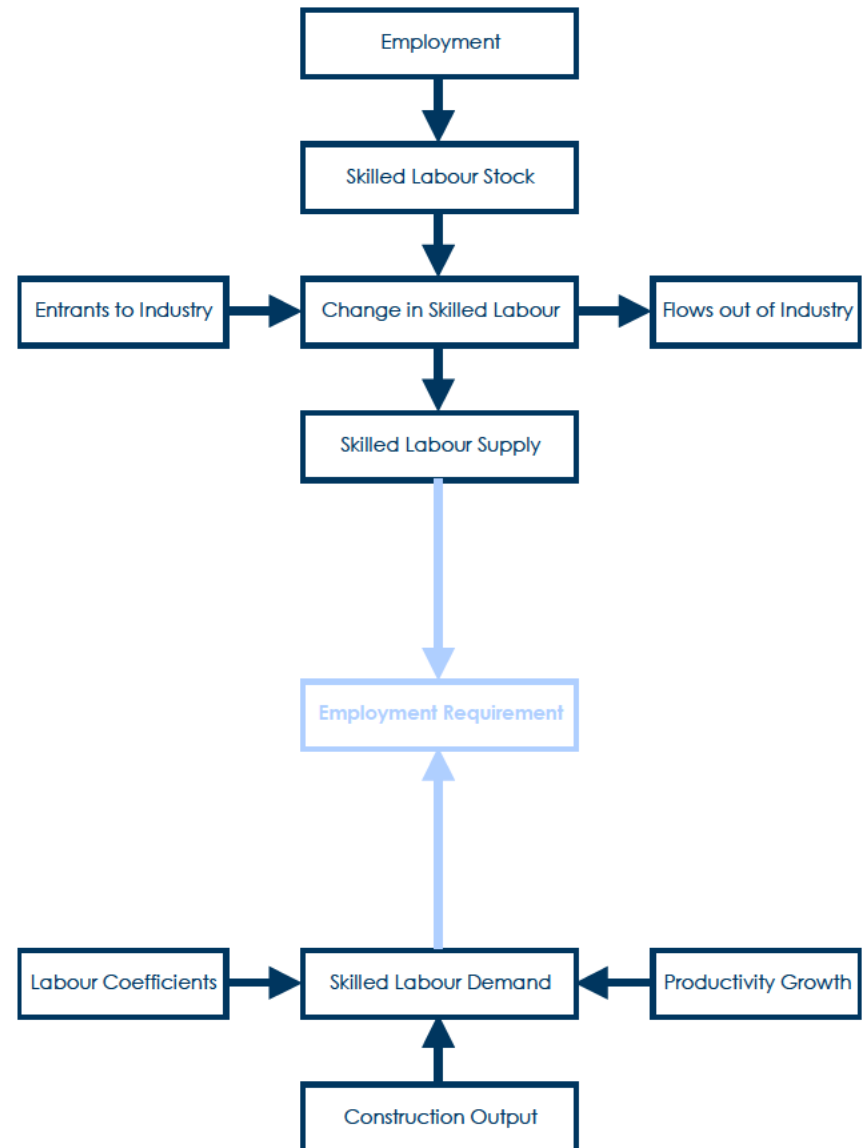
- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

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

Flows into the labour market include:

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

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



Source: Experian

## Appendix II – Glossary of Terms

**Construction Skills Network**



## Appendix II – Glossary of Terms

- **Demand** – construction **output**, vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using Department of Trade and Industry (DTI) and the Department of Finance and Personnel Northern Ireland (DFP) output data. Vacancy data are usually taken from the National Employers Skills Survey from the Department for Education and Skills.
- **GDP** – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income.  $GDP = GVA$  plus taxes on products minus subsidies on products
- **GVA** – Gross Value Added – total output minus the value of inputs used in the production process. GVA measures the contribution of the economy as a difference between gross output and intermediate outputs.
- **Labour coefficients** – the labour inputs required for various types of construction activity. The number of workers of each occupation/trade to produce £1m of output in each sub-sector.
- **LFS** – Labour Force Survey – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training, from around 53,000 households each quarter (>100,000 people).
- **LMI** – Labour Market Information – data that are quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.
- **Macroeconomics** – the study of an economy on a national level, including total employment, investment, imports, exports, production and consumption.
- **ONS** – Office for National Statistics – official statistics on economy, population and society at national UK and local level.
- **Output** – total value of all goods and services produced in an economy.
- **Productivity** – output per employee
- **SIC Codes** – Standard Industrial Classification Codes – from the UK Standard Industrial Classification of Economic Activities produced by the **ONS**.
- ConstructionSkills is responsible for SIC 45 Construction and part of SIC 74.2 Architectural and Engineering activities and related technical consultancy.
- ConstructionSkills shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. AssetSkills has a peripheral interest in SIC 74.2.
- **SOC Codes** – Standard Occupational Classification Codes
- **Supply** – the total stock of employment in a period of time plus the flows into and out of the labour market. Supply is usually calculated from **LFS** data.

# Appendix III – Footnotes & Footprints

**Construction Skills Network**



## Appendix III – Footnotes & Footprints

### Footnotes

1. Except for Northern Ireland, output data for the English regions, Wales and Scotland are supplied by the Department of Trade and Industry (DTI) on a current price basis. Thus national deflators produced by the DTI have been used to deflate to a 2000 constant price basis, i.e. the effects of inflation have been stripped out.
2. The annual average growth rate of output is a Compound Average Growth Rate, i.e. the rate at which output would grow each year if it increased steadily year-on-year over the forecast period.
3. Only selected components of Gross Value Added (GVA) are presented given space is limited. Agriculture and Engineering are among the components excluded as their impact on the construction industry is relatively small compared to the other sectors. As a result the sum of GVA in the sectors presented (Public Services, Financial & Business Services, Transport & Communications, Manufacturing and Distribution, Hotels & Catering) does not sum to the total.
4. Employment numbers are rounded to the nearest 10.
5. 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
<b>ConstructionSkills</b>	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 are as follows:

#### SummitSkills

Footprint – Plumbing, Heating, Ventilation, Air Conditioning, Refrigeration and Electrotechnical.

Coverage – Building Services Engineering.

#### AssetSkills

Footprint – Property Services, Housing, Facilities Management, Cleaning

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

#### Energy & Utility Skills

Footprint – Electricity, Gas (including gas installers), Water and Waste Management

Coverage – Electricity generation and distribution; Gas transmission, distribution and appliance installation and maintenance; Water collection, purification and distribution; Waste water collection and processing; Waste Management.

## Appendix IV – Occupational Groups (SOC codes)

**Construction Skills Network**



## 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, staggers, 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

**Construction Skills Network**



## 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 can be found at

<http://www.constructionskills.net>

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

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

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

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

<http://www.constructionskills.net>

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

### Contact Details

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

[sandra.lilley@citb.co.uk](mailto:sandra.lilley@citb.co.uk)

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

[sally.riley@citb.co.uk](mailto:sally.riley@citb.co.uk)