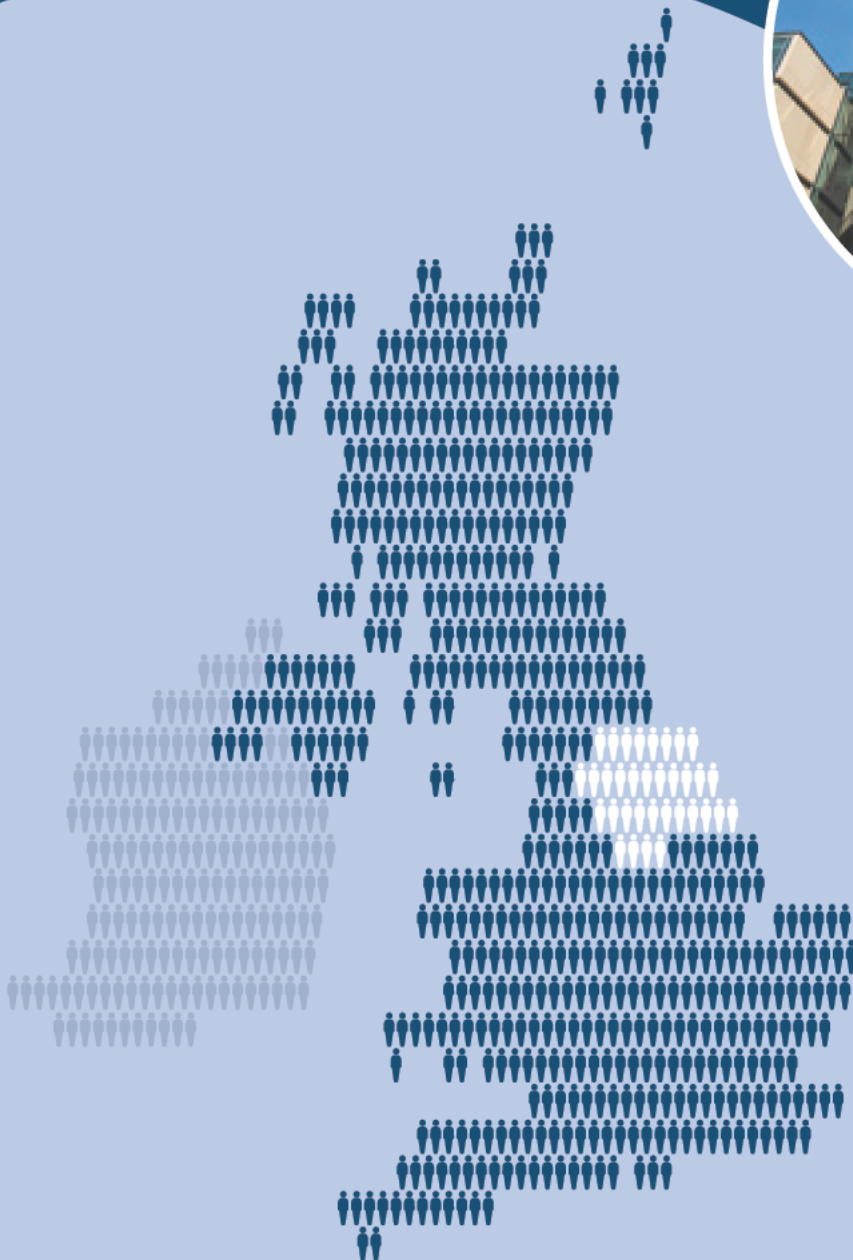


# Construction Skills Network Yorkshire and the Humber 2014-2018

Labour Market Intelligence



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# Contents

1	Summary and key findings .....	4
2	The outlook for construction in Yorkshire and the Humber .....	6
3	Construction employment forecasts for Yorkshire and the Humber .....	12
4	Comparisons across the UK .....	14

## Tables and charts

1	Annual average construction output growth 2014-2018 .....	4
2	Regional comparison 2014-2018 .....	5
3	Construction output 1996-2012 .....	6
4	Construction industry structure 2012 – UK vs. Yorkshire and the Humber .....	6
5	Economic structure .....	7
6	Economic indicators .....	7
7	New construction orders growth 1996-2012 .....	8
8	New work construction orders .....	8
9	Construction output 2014-2015 .....	9
10	Annual average construction output growth 2014-2015 .....	9
11	Annual average construction output growth 2014-2018 .....	10
12	Construction output 2014-2018 .....	11
13	Total employment by occupation .....	12
14	Annual recruitment requirement by occupation .....	13
15	Annual average output growth by region .....	15
16	Annual recruitment requirement by region .....	15

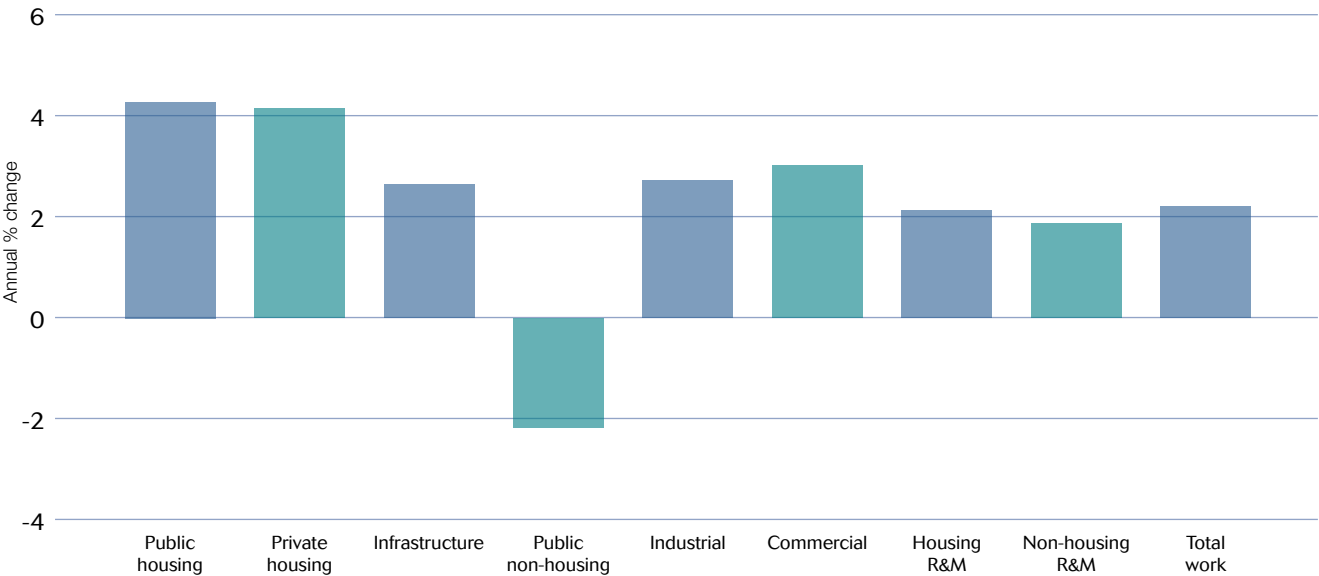
## CSN explained

1	CSN methodology .....	17
2	Glossary of terms .....	18
3	Notes and footprints .....	19
4	Definitions: types and examples of construction work .....	20
5	Occupational groups .....	22
6	CSN website and contact details .....	25

# 1 Summary – Yorkshire and the Humber

Yorkshire and the Humber is forecast to experience a rise in construction activity between 2014 and 2018, with average annual output increases of 2.2%, performing in line with the UK average. Construction employment is predicted to be 190,010 in 2018, 5% higher than in 2014. The region's annual average recruitment requirement (ARR) for the 2014 to 2018 period is projected to be 3,170, 8.7% of the UK total. This represents 1.7% of total projected base 2014 employment in Yorkshire and the Humber, slightly higher than the UK average (1.5%).

Annual average construction output growth 2014-2018 – Yorkshire and the Humber



Source: CSN, Experian  
ref. CSN Explained, Section 3, Note 2





## 1.1 Key findings

Public housing is predicted to be the best performing sector, with annual average increases of 4.2% over the next five years. Social housing providers are becoming successful in securing funding from other sources than the public purse, with a large proportion already stating that they have finance available for more than a year.

Annual average expansion of 4.1% is predicted for the private housing market between the 2014 and 2018 period. The sector will be boosted in the short term by the Government's Help to Buy scheme. One large project that is due to begin in the sector is a £1.5bn regeneration scheme between Bradford city centre and Shipley town centre, where homes as well as office and retail space are to be built.

The commercial sector is likely to see annual average growth of 3% over the next five years. Economic conditions improving throughout the forecast period should lead to both mothballed and new projects getting underway again. The much-delayed Westfield Broadway Centre in Bradford finally saw construction work commence at the end of 2013.

Public non-housing is the only sector likely to experience annual average falls, projected at 2.1%, over the next five years. The output for the market is likely to fall for six successive years to 2016 before a turnaround is projected in 2017. By the end of the five year period, the sector is likely to be at approximately 47% of its 2010 peak.

Overall construction employment in the region is forecast to see annual average increases of 0.9% over the next five years. The strongest increases in employment are projected for construction trade supervisors, with annual average growth of 4.4%. Plant mechanics/fitters are also predicted to register a robust annual average increase of 4.3%.

The region's ARR, at 3,170, represents 1.7% of total projected base 2014 employment, higher than the UK average (1.5%). The largest absolute requirement is for wood trades and interior fit-out (1,200) but, as a share of 2014 base employment, the category with the largest requirement is logistics, at nearly 13%, followed by plant operatives (8%) and floorers (7%).

Data from CITB's 2012 Workforce Mobility and Skills survey and the Labour Force survey seems to suggest that, during that year, Yorkshire and the Humber was suffering significant net outflows of its construction workforce to other parts of the UK, which is the reverse of what has traditionally thought to be the case.

### Regional comparison 2014-2018

	Annual average % change in output	Change in total employment	Total ARR
North East	2.4%	2,660	2,680
Yorkshire and Humber	2.2%	8,590	3,170
East Midlands	1.1%	5,910	1,980
East of England	3.0%	24,220	5,150
Greater London	2.0%	27,490	1,290
South East	2.9%	28,900	1,600
South West	3.5%	16,700	6,370
Wales	3.4%	9,490	3,570
West Midlands	0.8%	-2,090	380
Northern Ireland	2.3%	3,400	1,280
North West	1.3%	10,300	2,970
Scotland	2.0%	12,240	5,960
UK	2.2%	147,810	36,400

Source: CSN, Experian  
ref. CSN Explained, Section 3, Note 2

## 2 The outlook for construction in Yorkshire and the Humber

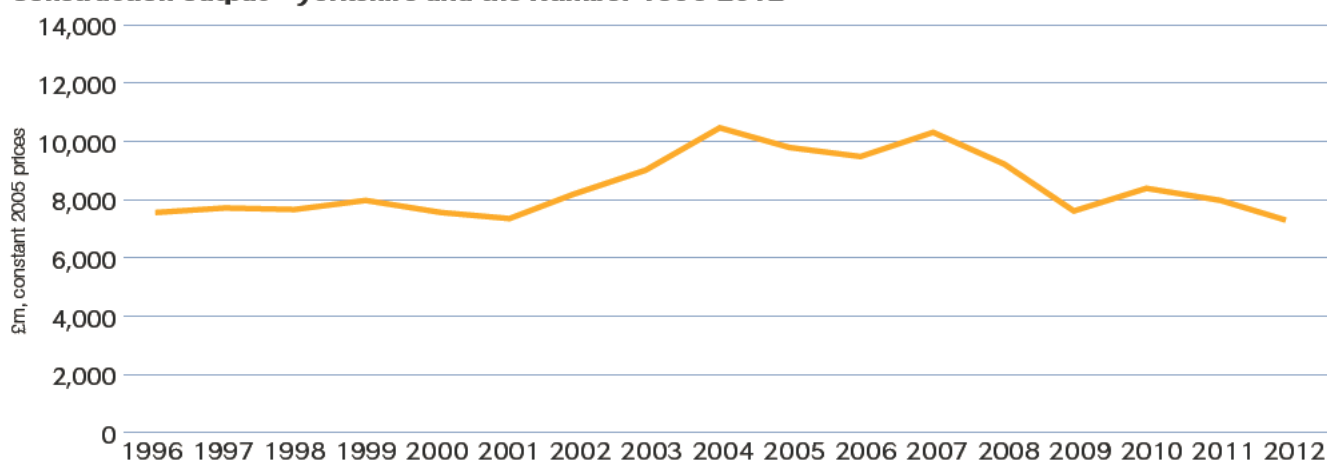
### 2.1 Construction output in Region – Yorkshire and the Humber

In 2012, total construction output in the region fell for the second consecutive year, by 8% to £7.3bn. While the new work sector went down by 9% to £4.7bn the R&M sector experienced a smaller decline, of 5% to £2.6bn.

There were very large variations in sector performance. The industrial sector saw output rise by 80% to £515m, although this sector is relatively small and therefore subject to large movements. Both the commercial (£1.3bn) and public non-housing (£833m) sectors registered decreases of 27% in output. The former

sector has been suffering in recent years as a result of projects being mothballed, while the latter sector hasn't seen any sizeable schemes take place since the completion of Building Schools for the Future (BSF) 'legacy' projects and ProCure 21 framework projects. Given the Government's ongoing financial constraints, it should come as no surprise that the public housing sector also saw heavy falls, of 25% to £212m. Under the current 2011-2015 Affordable Housing Programme (AHP) the funding for the North East and Yorkshire and the Humber have been combined with a total allocation of £181m. This has led to a big fall in funding levels compared to the 2008-2011 AHP for the region.

#### Construction output – Yorkshire and the Humber 1996-2012



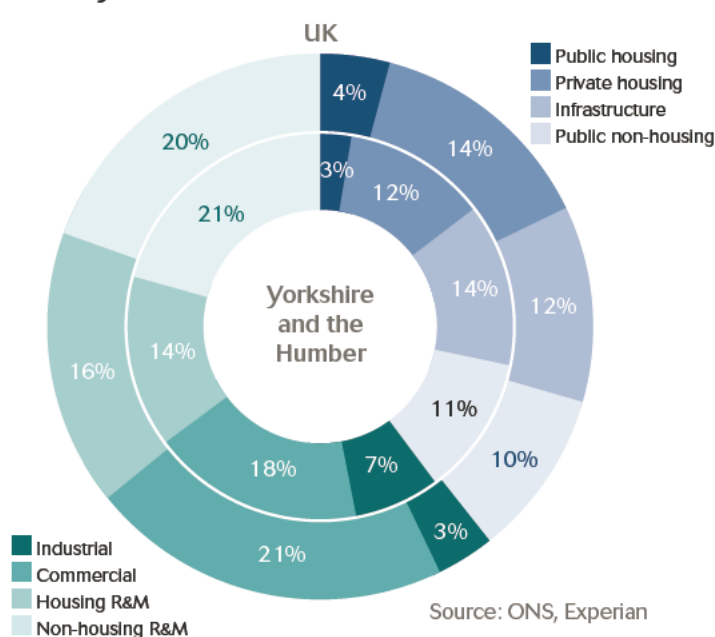
Source: ONS  
ref. CSN Explained, Section 3, Note 1

### 2.2 Industry structure

The diagram, Construction Industry structure 2012 – UK vs. Yorkshire and the Humber, illustrates the sector breakdown of construction in the region compared to that in the UK. Effectively, the percentages illustrate what proportion of total output each sector accounts for.

Yorkshire and the Humber's new work sector (65%) is slightly larger than that of the UK as a whole (64%). The structure of the region's construction industry is very similar to the national average. Significant differences are only present in the industrial and commercial sectors. The former market's share is 4% bigger than that of the UK as a whole, at 7%, while the latter sector is 3% smaller, at 18%.

#### Construction Industry structure 2012 UK vs. Yorkshire and the Humber



Source: ONS, Experian

## 2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2014-2018) provides an indication of the construction sectors in which demand is likely to be strongest.

## 2.4 Economic structure

In 2012, Yorkshire and the Humber's Gross Value Added (GVA) saw its third successive year of growth, rising by 0.9% to £91.2bn. As a share of the UK, the region accounted for 6.8% of GVA.

Since 2007, professional and other private services and public services have been vying to be the largest

sector in the region's economy. In 2012, the former accounted for the slightly larger share (22%), with public services accounting for 21% of output. The manufacturing sector (14%) and wholesale and retail (13%) were ranked third and fourth respectively. Of the largest four sectors, all experienced growth in 2012 except the manufacturing one, which saw a decline of 3.5% to £12.9bn.

Surprisingly given the current parlous nature of public finances, the strongest growth of 3.8% came in public services, which performed better in than the UK as a whole, where it expanded by 1.7%.

### Economic structure – Yorkshire and the Humber (£ billion, 2010 prices)

Selected sectors	Actual	Forecast					
		Annual % change, real terms					
	2012	2013	2014	2015	2016	2017	2018
Public services	19.3	0.8	0.1	0.3	0.6	0.9	1.4
Professional and other private services	20.1	1.9	2.0	1.5	1.9	1.9	2.0
Manufacturing	12.9	-0.4	1.2	0.7	0.8	0.8	0.7
Wholesale and retail	11.6	3.5	2.3	2.2	2.4	2.2	2.2
Information and communication	3.8	0.9	2.3	2.4	2.8	2.7	2.6
Total Gross Value Added (GVA)	91.2	0.9	1.4	1.4	1.8	1.8	1.9

Note: Top 5 sectors, excluding construction. Source: Experian. Ref. CSN Explained, Section 3, Note 3

## 2.5 Forward looking economic indicators

GVA in the region is estimated to have expanded by 0.9% in 2013 and over the forecast period it is predicted to grow at an annual average rate of 1.6%, slower than the UK average of 2%.

Annual average growth of 1.8% is likely to be seen in the largest sector, professional and other private services, while the public services sector is projected to grow by only 0.7% a year over the forecast period. Thus it looks as if the former sector has now taken over permanently as the largest part of the Yorkshire and the Humber economy. Manufacturing is predicted to see an annual average growth rate of 0.8%. Of the top four sectors, the wholesale and retail market is projected to see the greatest annual average increases, of 2.3%.

As the economy begins to see more of a sustained recovery, unemployment in the region should begin to fall. The estimated unemployment rate for the region last year was 9.2%, well above the UK average (7.8%), although it is forecast to drop to 7.5% by 2018.

The improving economic backdrop means that real household disposable income growth should begin to pick up slowly over the forecast period, eventually reaching 1.9% in 2018. With this increase, household spending also sees an upward trend over the five years to 2018.

The working age population stood at 3.323 million in 2012 and is predicted to rise as a share of total population over the forecast period, while house prices are estimated to experience a small annual growth over the same timeframe.

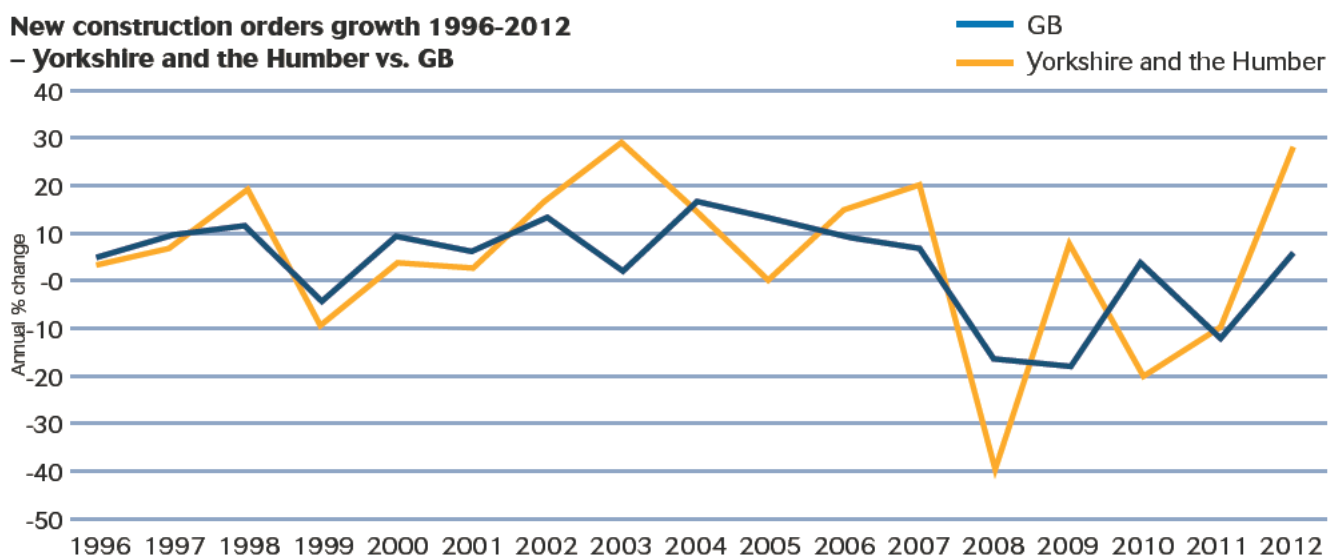
### Economic Indicators – Yorkshire and the Humber (£ billion, 2010 prices – unless otherwise stated)

	Actual	Forecast					
		Annual % change, real terms					
	2012	2013	2014	2015	2016	2017	2018
Real household disposable income	72.90	-0.8	1.1	1.2	1.5	1.7	1.9
Household spending	70.70	1.6	1.4	1.7	2.0	2.1	2.1
Working age population (000s and as % of all)	3,323	62.2	62.5	62.8	62.9	63.0	63.1
House prices (£)	161,396	0.1	1.5	2.0	1.9	2.0	2.5
LFS unemployment (millions)	0.25	1.72	-1.52	-6.45	-3.53	-2.90	-3.53

Source: ONS, DCLG, Experian



## New construction orders growth 1996-2012 – Yorkshire and the Humber vs. GB



Source: ONS  
ref. CSN Explained, Section 3, Note 4

## 2.6 New construction orders – overview

After declining for two consecutive years, new orders in the region rose by 28% to just over £4bn. However, they were still only at 56% of their 2007 peak. The greatest rise, of 242% to £1.3bn, came from the infrastructure sector, taking it to a new high. However, this was largely driven by a ten-year water and sewerage framework contract that was placed in the first quarter of 2012 and thus the output will be spread over a considerable period. Also seeing a huge jump in orders was the industrial sector, where orders went up by 212% to £462, although in this case the very big rise was more a function of volatility in a relatively small sector. The public housing market registered the largest decline, of 62% to £86m – the lowest level since 2004 and around 37% of its 2007 peak. The commercial (£687m) and public non-housing (£726m) sectors also experienced falls, of 25% and 11% respectively.

## 2.7 New construction orders – current situation

In the first six months of last year, new orders edged down by 1% to £2.4bn when compared to the corresponding period of the preceding year. However, growth was reported for the public and private housing and commercial sectors. The largest growth, of 113%, was recorded in the commercial sector. Projects such

as the £260m Westfield Broadway shopping centre are contributing towards this growth, with the contract for the scheme recently let. The public housing market (£81m) also saw a large increase in its orders (of 103%); however, as this sector is small, it is subject to large movements. The industrial sector experienced the greatest fall of 76% to £85m.

## 2.8 Construction output – short-term forecasts (2014–2015)

Regional Office for National Statistics (ONS) output statistics are published in current prices and are thus inclusive of any inflationary effect. At the time of writing, ONS construction output statistics were only available for the first two quarters of 2013.

During the first half of 2013, total construction output in the region declined by 4%, to £2.5bn when compared to the same period in 2012. Only the private housing (+15%), infrastructure (+21%) and housing R&M (+9%) sectors recorded growth year-on-year in the first half of 2013. Activity was heavily down in the public housing, public non-housing and industrial sectors.

In real terms, output in Yorkshire and the Humber is estimated to have declined by 3% in 2013, with growth in private housing (7%) and infrastructure (8%), a flat profile for R&M and falls in the remaining sectors.

## New work construction orders – Yorkshire and the Humber (£ million, current prices)

	Actual	Annual % change, real terms				
	2012	2008	2009	2010	2011	2012
Public housing	86	-28.5	-13.7	38.6	13.4	-62.3
Private housing	751	-61.1	-31.7	41.2	5.9	15.7
Infrastructure	1,293	-48.2	253.3	-68.2	16.3	242.1
Public non-housing	726	-0.8	64.3	-29.0	-33.4	-11.0
Industrial	462	-15.9	-39.3	-34.3	-27.8	212.2
Commercial	687	-49.9	-44.7	12.4	-2.8	-25.2
<b>Total new work</b>	<b>4,004</b>	<b>-41.3</b>	<b>7.2</b>	<b>-21.6</b>	<b>-10.8</b>	<b>27.7</b>

Source: ONS. Ref. CSN Explained, Section 3, Note 4

**Construction output 2014-2015 – Yorkshire and the Humber (£ million, 2005 prices)**

	Actual	Forecast Annual % change			Annual average
		2012	2013	2014	2015
Public housing	212	-22%	8%	4%	5.6%
Private housing	868	7%	9%	4%	6.5%
Infrastructure	991	8%	22%	2%	11.6%
Public non-housing	833	-17%	-11%	-1%	-6.2%
Industrial	515	-29%	2%	8%	5.1%
Commercial	1,308	-3%	-1%	6%	2.4%
New work	4,727	-5%	5%	4%	4.6%
Housing R&M	1,045	5%	4%	0%	2.1%
Non-housing R&M	1,518	-3%	3%	2%	2.6%
Total R&M	2,563	0%	4%	1%	2.4%
Total work	7,290	-3%	5%	3%	3.8%

Source: Experian. Ref. CSN Explained, Section 3, Notes 1 and 2

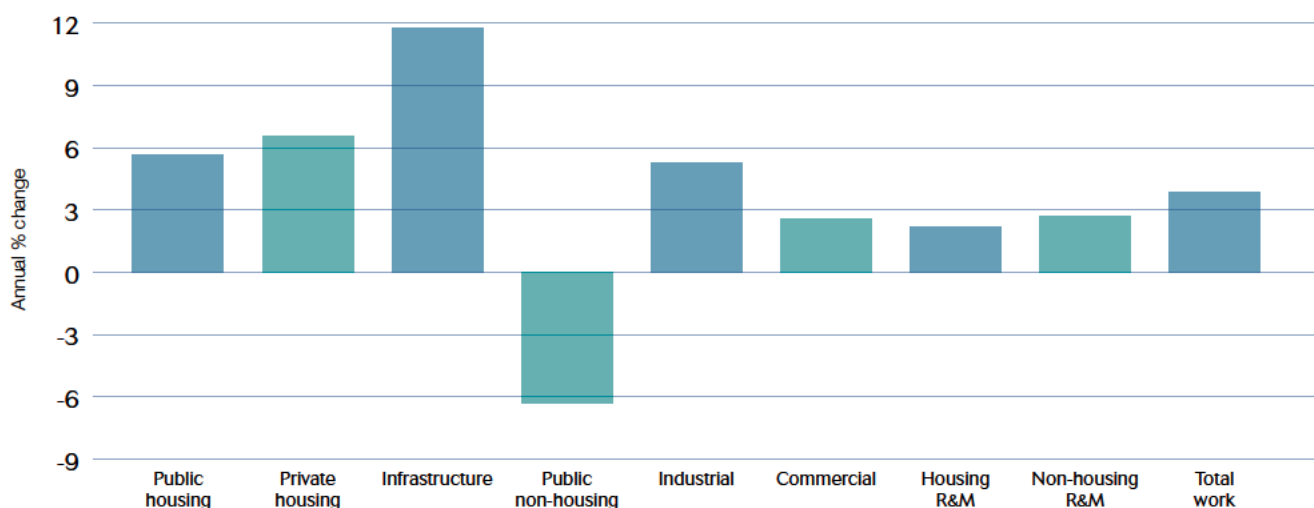
Over the next two years, construction output in the region is predicted to see an annual average increase of 3.8%. The new work sector is forecast to go up by an average of 4.6% per year, while smaller annual average increases of 2.4% are projected for the R&M sector.

With an average yearly increase of 11.6% over the next two years, the infrastructure market is predicted to be the best performing sector. Double-digit growth is expected to be seen in 2014, largely due to upgrades of both the A1 and M1. The A1 Leeming to Barton improvement, worth £314m, is due to start early in 2014, with completion in mid-2017, while the £120m managed motorway works on the M1 junctions 39-42 began at the end of 2013. By 2015, infrastructure output is predicted to reach a record high of £1.34bn at 2005 prices.

The private housing sector is forecast to experience annual average increases of 6.5% over the short term, boosted by the Government's Help to Buy scheme. Latest figures show that, a month after the mortgage guarantee element of the scheme was launched, lenders reported a

large rise in uptake. At the time of writing, over 2,000 applications have been made, which is potentially worth £365m of new mortgage lending. Unfortunately, there is no regional breakdown of the figures at present. Help to Buy's impact on the market is having a positive effect on house prices, although in Yorkshire and the Humber they were largely static on the ONS mix-adjusted measure in 2013. A modest growth in house prices is predicted for the region in 2014 and 2015.

The public housing sector in the region is predicted to see annual average growth of 5.6% between 2014 and 2015. Falls in public housing output as a result of the lower levels of funding from the 2011-2015 Affordable Homes Programme (AHP) compared to the 2008-2011 AHP came later in Yorkshire and the Humber than in the other English regions. As a result, double-digit declines are estimated for the market in 2013, while most other English regions are likely to see growth. But an upturn is expected in 2014 and 2015 as a high number of providers have already secured sufficient funding for projects.

**Annual average construction output growth 2014-2015 – Yorkshire and the Humber**Source: CSN, Experian  
ref. CSN Explained, Section 3, Note 2



Yorkshire and the Humber is forecast to experience a rise in construction activity between 2014 to 2018, with average annual output increases of 2.2%

The Homes and Communities Agency's Quarterly Survey of Private Registered Providers 2013/14 for the second quarter shows that over 90% of respondents believe that their current debt facilities are sufficient for more than a year.

An annual average fall of 6.2% per year in 2014 and 2015 is estimated for public

non-housing, making it the worst performing sector. No substantial schemes have taken place in the sector since the completion of Building Schools for the Future (BSF) 'legacy' projects and ProCure 21 framework projects. Thus, output is likely to fall further as it returns to more 'normal' levels. By 2015, output is projected to be around 46% of its 2010 peak.

## 2.9 Construction output – long-term forecasts (2014-2018)

Yorkshire and the Humber is projected to see an annual average increase of 2.2% in construction output over the next five years. The new work sector is projected to see output rise by 2.4% per year whilst the R&M sector is predicted to experience growth of 1.9%.

Public housing sector is predicted to be the best performing sector, with annual average increases of 4.2% over the next five years. However, by 2018 output is still projected to be around only 71% of its 2011 peak.

Yearly increases of 4.1% are forecast for the private housing market during the 2014 and 2018 period. The highest levels of growth are expected in the short term, with more modest increases towards the end of the forecast period. The annual average growth rate for

the Yorkshire and the Humber market is actually a little worse than the corresponding figure for the UK as a whole (4.6%). This is no real surprise given that the UK average benefits from strong demographic pressures in the south east corner of England and a high level of foreign investment in the London housing market. A £1.5bn regeneration scheme between Bradford city centre and Shipley town centre is due to commence in 2015. This eight year project will include at least 5,000 new homes as well as office and retail space.

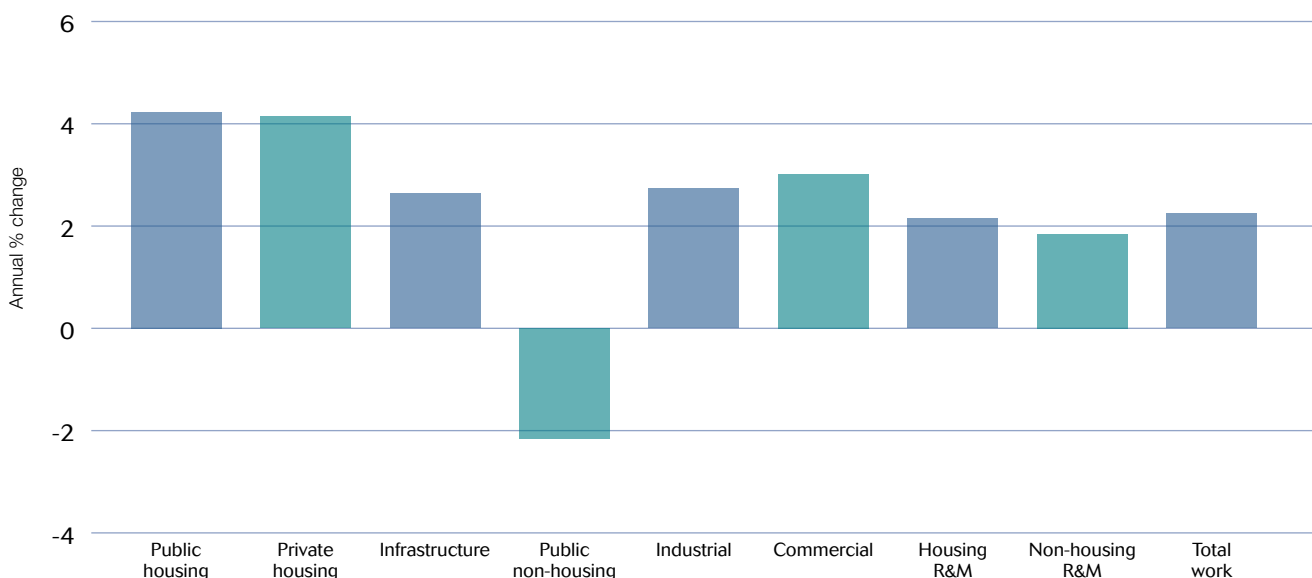
The commercial sector is likely to see annual average growth of 3% over the next five years. The market has suffered as a result of large schemes that have either been put on hold or have been cancelled since the financial crisis of 2008–2009. However, as economic conditions improve, some of these projects are now coming back into the market alongside the new schemes that are now planned to take place.

Work on the much-delayed Westfield Broadway Centre in Bradford commenced in November 2013. The two year project, worth £260m, will cover 550,000 square feet and will be anchored by Next, Debenhams and Marks & Spencer. Another sizeable scheme is the next phase of development at Thorpe Park, Leeds. If approved, the £400m scheme will add a further 1.2 million square feet of office space to the current 600,000 square foot business site. The scheme also includes 177,000 square feet of leisure space and a 130,000 square foot food store. Work should be underway by the middle of 2014, with an end date of 2016.

Despite the sector seeing much higher annual average growth rates compared to the UK as a whole (1.5%), output will still be only around 52% of its 2007 peak by 2018.

A three-year project worth £400m is due to commence in Sheffield in 2016. This is the construction of a retail quarter which will include a new flagship store and shops covering 98,500 square metres. Existing retail units will also be refurbished. There are also plans for

### Annual average construction output growth 2014-2018 – Yorkshire and the Humber



Source: CSN, Experian  
ref. CSN Explained, Section 3, Note 2

**Construction output 2014-2018 – Yorkshire and the Humber (£ million, 2005 prices)**

	Estimate	Forecast Annual % change					Annual average
	2013	2014	2015	2016	2017	2018	2014-18
Public housing	165	8%	4%	3%	2%	5%	4.2%
Private housing	932	9%	4%	4%	1%	2%	4.1%
Infrastructure	1,073	22%	2%	0%	-4%	-5%	2.6%
Public non-housing	689	-11%	-1%	-4%	2%	4%	-2.1%
Industrial	367	2%	8%	1%	2%	1%	2.7%
Commercial	1,269	-1%	6%	3%	3%	4%	3.0%
New work	4,495	5%	4%	1%	0%	1%	2.4%
Housing R&M	1,097	4%	0%	2%	2%	1%	2.1%
Non-housing R&M	1,465	3%	2%	2%	2%	0%	1.8%
R&M	2,562	4%	1%	2%	2%	1%	1.9%
Total work	7,057	5%	3%	2%	1%	1%	2.2%

Source: CSN, Experian.  
Ref. CSN Explained, Section 3, Note 2

one and two bedroom flats to be constructed, covering approximately 25,000 square metres.

Public non-housing is the only sector projected to see an annual average fall, of 2.1%, over the next five years. Activity in the sector is likely to decline for six consecutive years to 2016 before growth is expected to return in 2017. The Government's programme to reduce public debt levels leaves little room for an expansion in public capital expenditure over the next few years, particularly in the offices and leisure sub-sectors. Even with growth returning by the end of the forecast period, the market is likely to be only around 47% of its 2010 peak in 2018.

## 2.10 Beyond 2018

Looking at possible projects post-2018, focus is likely to be on the energy sector, with work on the offshore wind farm Hornsea Project 2 likely to start in the latter part of this decade, and a new combined cycle gas turbine power station planned for the East Riding. Energy capacity and security will be an important issue for the UK over the next decade and is likely to lead to increasing levels of construction on all manner of power generation facilities, from nuclear and renewables to the more traditional plants.

By 2015,  
infrastructure output  
is predicted to reach  
a record high of  
£1.34bn  
(2005 prices)



## 3 Construction employment forecasts for Yorkshire and the Humber

### 3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41-43, 71.1, and 74.9) in the Yorkshire and the Humber region for 2012, the estimated total employment across 28 occupational categories in 2013 and forecasts for the industry for 2014 to 2018. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

Construction employment in Yorkshire and the Humber is projected to reach 190,010 by 2018, around 5% higher than 2013 levels. Annual average output growth of 2.2% in Yorkshire and the Humber is identical to the UK average; however, annual average employment growth in the region is slightly lower than that of the UK as a whole (0.9% vs. 1.2%).

Yorkshire and the Humber is one of the regions where output has fallen much further than employment since their respective peaks. This indicates a relatively high level of excess capacity at present, some of which will

need to be taken up before the recovery in activity translates to rising employment.

In 2012, the largest construction trade occupation in the region was wood trades and interior fit-out, which accounted for 11% of the total workforce. This is similar to the UK profile, although wood trades and interior fit-out accounts for a slightly lower share nationally (10%).

The majority of the occupational categories are predicted to grow in the five years to 2018, with construction trade supervisors expected to see the largest annual average expansion of 4.4%. Plant mechanics/fitters are also expected to see good increases of 4.3% per year. However, it should be noted that the numbers can be small at occupational category level, so a big movement in percentage terms can be a relatively small movement in actual numbers.

### 3.2 Annual recruitment requirements (ARR) by occupation

The ARR is a gross requirement that takes into account workforce flows into and out of construction, due

#### Total employment by occupation – Yorkshire and the Humber

	Actual	Estimate	Forecast	
	2012	2013	2014	2018
Senior, executive and business process managers	12,220	10,920	11,100	11,780
Construction project managers	2,660	2,760	2,860	3,210
Other construction process managers	11,640	11,700	12,030	13,210
Non-construction professional, technical, IT and other office-based staff	22,930	23,540	23,410	23,160
Construction trades supervisors	3,910	3,490	3,660	4,330
Wood trades and interior fit-out	20,130	18,200	18,770	20,760
Bricklayers	5,940	5,310	5,380	5,700
Building envelope specialists	7,810	7,070	7,090	7,280
Painters and decorators	6,960	6,300	6,230	6,080
Plasterers	4,810	5,250	4,990	4,350
Roofers	4,500	4,750	4,750	4,770
Floorers	2,680	2,550	2,560	2,620
Glaziers	2,260	2,020	1,970	1,870
Specialist building operatives nec*	3,630	3,240	3,200	3,100
Scaffolders	2,260	2,240	2,240	2,090
Plant operatives	1,150	1,260	1,270	1,320
Plant mechanics/fitters	3,350	3,660	3,810	4,520
Steel erectors/structural fabrication	2,930	2,620	2,620	2,640
Labourers nec*	7,120	6,710	6,710	6,730
Electrical trades and installation	15,980	14,280	14,340	14,580
Plumbing and HVAC Trades	11,880	12,970	12,740	12,020
Logistics	1,160	1,040	1,030	1,030
Civil engineering operatives nec*	3,560	3,890	3,970	4,400
Non-construction operatives	4,530	4,950	5,020	5,480
Civil engineers	3,660	3,270	3,330	3,560
Other construction professionals and technical staff	10,580	11,120	11,370	12,290
Architects	590	530	520	460
Surveyors	6,030	5,790	5,980	6,670
<b>Total (SIC 41-43)</b>	<b>166,000</b>	<b>160,720</b>	<b>161,750</b>	<b>167,030</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>186,860</b>	<b>181,430</b>	<b>182,950</b>	<b>190,010</b>

Source: ONS, CSN, Experian. Ref. CSN Explained, Section 3, Notes 5 and 6

\*Not elsewhere classified



to factors such as movements between industries, migration, sickness and retirement. However, due to the inconsistency and coverage of supply data, these flows do not include movements into the industry from training. Thus, the annual recruitment requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output.

The ARR for the 28 occupations within the Yorkshire and the Humber's construction industry is illustrated in the table. The figure of 3,170 is indicative of the average requirements per year for the industry, based on the output forecasts for the region. This takes into account 'churn' i.e. the flows into and out of the industry, excluding training flows.

In absolute terms, the largest requirement is for wood trades and interior fit-out (1,200). However, as a proportion of base 2014 employment, the construction trade most likely to be in demand is logistics (13%). The region's ARR of 3,170 is equivalent to 1.7% of base 2014 employment, higher than the UK average (1.5%).

Traditionally, there has been a belief that the workforce in the region has been reluctant to move away to find work and this has been backed up in the past by intra-regional mobility data from the Labour Force Survey. Intriguingly, however, the latest CITB Workforce Mobility and Skills survey suggests that this may no longer be the case. According to the survey, some 20% of the Yorkshire and the Humber workforce originated from other parts of the country or from outside the UK. Utilising Labour

Force Survey data, this would equate to about 39,000. However, applying Labour Force Survey data to the percentage of respondents who indicated that they originated from the region but were currently working elsewhere, the figure is around 63,500, with the North East, North West and East Midlands the favoured areas. Thus, at the time of the survey, 2012, Yorkshire and the Humber seemed to be suffering from net outflows of its construction workforce to the rest of the UK.

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

Non-construction operatives is a diverse occupational group including all of the activities under the SICs 41-43, 71.1, and 74.9 umbrella that cannot be classified elsewhere, such as cleaners, elementary security occupations nec and routine inspectors and testers. The skills required in these occupations are highly transferable to other industries and forecasting such movement is hazardous given the lack of robust supportive data. Therefore, the ARR for non-construction operatives is not published.

Finally, for certain occupations there will be no appreciable requirement over the forecast period, partly due to the recession creating a 'pool' of excess labour.

### Annual recruitment requirement by occupation – Yorkshire and the Humber

	2014-2018
Senior, executive and business process managers	-
Construction project managers	<50
Other construction process managers	-
Non-construction professional, technical, IT and other office-based staff	250
Construction trades supervisors	80
Wood trades and interior fit-out	1,200
Bricklayers	300
Building envelope specialists	100
Painters and decorators	120
Plasterers	-
Roofers	250
Floorers	190
Glaziers	-
Specialist building operatives nec*	-
Scaffolders	-
Plant operatives	100
Plant mechanics/fitters	210
Steel erectors/structural fabrication	-
Labourers nec*	-
Electrical trades and installation	-
Plumbing and HVAC Trades	-
Logistics	130
Civil engineering operatives nec*	-
Non-construction operatives	-
Civil engineers	<50
Other construction professionals and technical staff	<50
Architects	<50
Surveyors	90
Total (SIC 41-43)	2,960
Total (SIC 41-43, 71.1, 74.9)	3,170

Source: CSN, Experian. Ref. CSN Explained, Section 3, Notes 5 and 6

\*Not elsewhere classified

## 4 Comparisons across the UK

The strongest growth in construction output is expected in the South West and Wales, as both will benefit from new nuclear build projects during the forecast period. Even though main construction works at Wylfa, Wales, are not due to start until mid-2017 at the earliest, this is a very large project in a relatively small market, making its impact on overall construction output similar to Hinkley Point in the South West, despite the latter starting three years earlier.

Once the South West and Wales are stripped away, the south east corner of England is again due to do rather better than the rest of the UK. The South East benefits disproportionately from growth in the private housing sector which takes a larger share of output in the region than the UK average (18% vs. 14%). This combined with a higher than average growth rate (5.7% vs. 4.6%) helps boost overall expansion in the South East's construction sector (with an annual average growth of 2.9% to 2018). The East of England has a slightly stronger average growth rate of 3% a year. The main reasons for the region's higher than average increase in construction output are good growth in private housing, combined with higher than average infrastructure

expansion when work starts on the site of the Sizewell C new nuclear project at the beginning of 2018. In addition, strong growth in industrial construction is linked to the development of distribution and logistics facilities around London Gateway Port.

Interestingly however, Greater London's projected annual average output growth rate of 2% is slightly below the UK average (2.2%). Greater London is the only region to have experienced expansion in construction output in real terms over the five years to 2012; therefore activity in some sectors may be close to peaking. For example, infrastructure activity is projected to decline by an annual average of 2.4% in the five years to 2018, as projects such as Crossrail and Thameslink wind down in the second half of the forecast period.

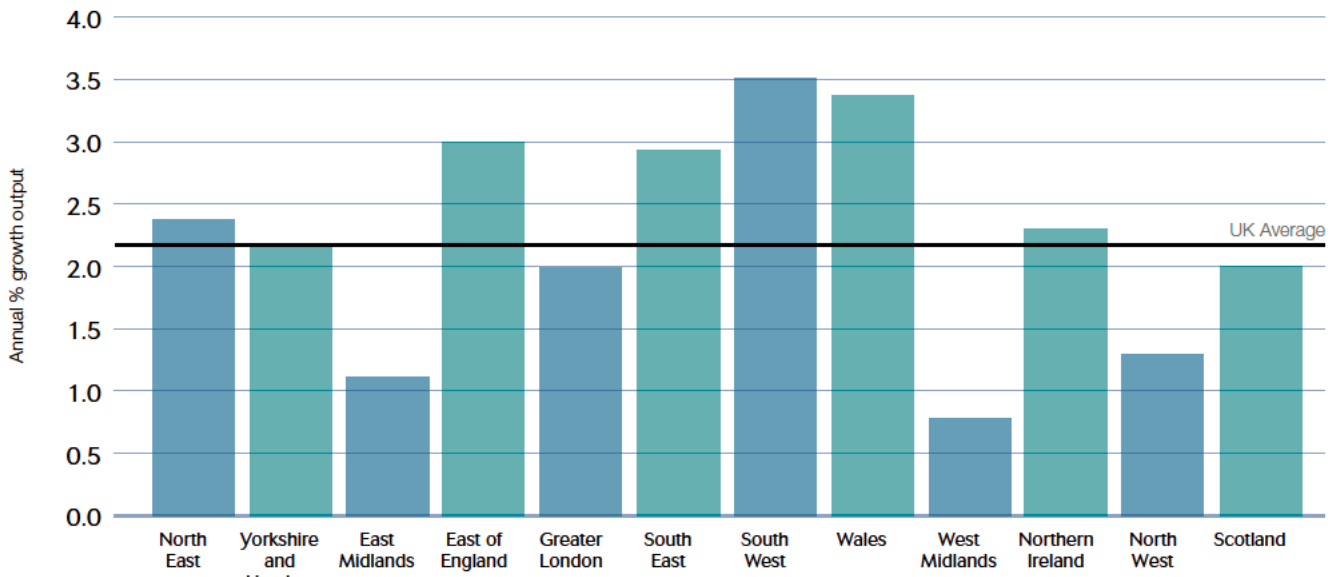
Despite the South West and Wales being the strongest areas in output terms, they do not top the employment rankings. Infrastructure work has a smaller labour requirement than other sectors and so impacts employment much less than output. The East of England has the strongest employment growth rate, of 2% a year on average over the forecast period. This is due to two factors – a strong output growth rate and the region's higher than average share of the much more labour intensive R&M sectors compared with the UK as whole (45% vs. 36%). All regions are expected to see employment growth except the West Midlands, where output growth of just 0.8% a year on average is not enough to drive expansion of employment given anticipated productivity gains.

Concerns about prospective skills shortages have been increasing in some quarters recently, which may initially seem surprising given the industry's position in the recovery cycle. Construction output in 2013 is likely still to be 15% below its 2007 peak, and employment is likely to be 13% down on its 2008 peak. This would suggest that a substantial pool of construction workers is waiting to re-enter the industry. However, many of these workers may have taken jobs in other sectors, or retired. Questions remain about the number of workers who will come back into the industry as growth continues and, of these, how many will have been out of the industry for such a length of time that they will require some level of retraining.



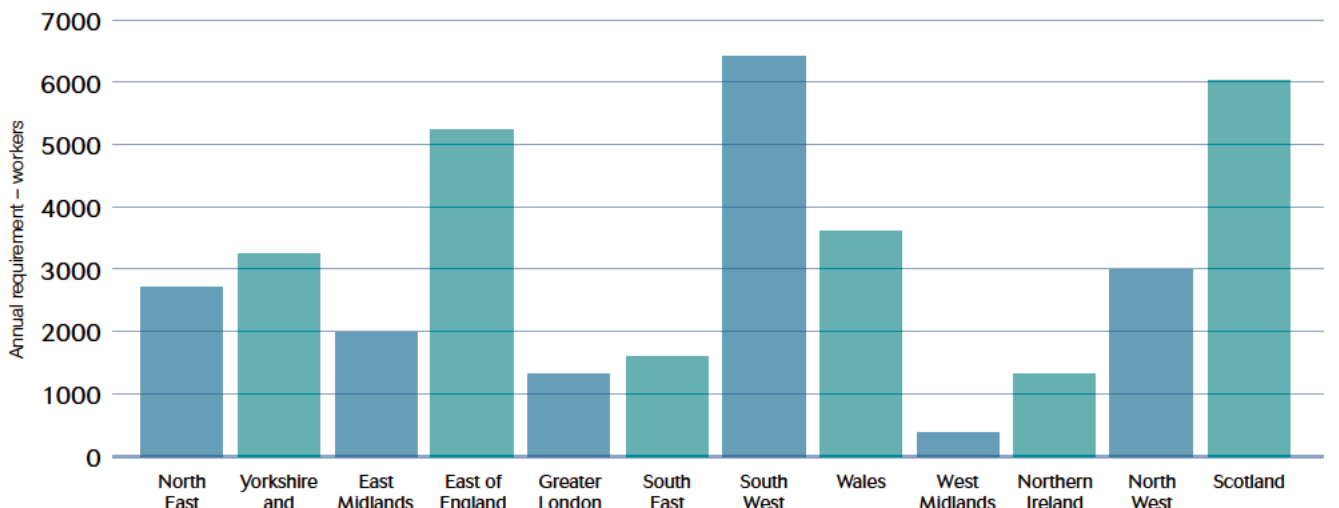


### Annual average output growth by region 2014-2018



Source: CSN, Experian  
ref. CSN Explained, Section 3, Note 2

### Annual recruitment requirement (ARR) by region 2014-2018



Source: CSN, Experian



# CSN Explained

This appendix provides further details and clarification of some of the points covered in the report.

Section 1 gives an overview of the underpinning methods that are used by the CSN, working in partnership with Experian, to produce the suite of reports at a UK, national and regional level.

Section 2 provides a glossary to clarify some of the terms that are used in the reports.

Section 3 has some further notes relating to the data sources used for the various charts and tables. This section also outlines what is meant by the term 'footprint', when talking about the areas of responsibility that lie with a Sector Skills Council.

Section 4 explains the sector definitions used within the report and provides examples of what is covered in each.

Section 5 gives a detailed breakdown of the 28 occupational groups into the individual standard occupational classification (SOC) codes that are aggregated to provide the employment and recruitment requirement.

Section 6 concludes this appendix by giving details about the range of LMI reports, the advantages of being a CSN member and details of who to contact if readers are interested in joining.





# 1 CSN methodology

## Background

The **Construction Skills Network** has been evolving since its conception in 2005, acting as vehicle for ConstructionSkills to collect and produce information on the future employment and training needs of the industry. CITB, CIC and CITB-ConstructionSkills Northern Ireland are working as ConstructionSkills, the Sector Skills Council for Construction, to produce robust labour market intelligence which provides 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 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 twice a year and consist of key regional stakeholders invited from industry, Government, education and other SSCs, all of whom contribute their local industry knowledge and views on training, skills, recruitment, qualifications and policy. The National Group also includes representatives from industry, Government, education and other SSCs. This Group convenes twice a year and sets the national scene, effectively forming a backdrop for the Observatories.

At the heart of the CSN are several models which generate forecasts of employment requirements within the industry for a range of occupational groups. The models are designed and managed by Experian under the independent guidance and validation of the Technical Reference Group, which is comprised of statisticians and modelling experts.

The models have evolved over time and will continue to do so, to ensure that they account for new research as it is published as well as new and improved modelling techniques. 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 models, which are 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 interrelated 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

The **annual recruitment requirement** (ARR) is a gross requirement that takes into account workforce flows into and out of construction, due to such factors as movements between industries, migration, sickness and retirement. However, these flows do not include movements into the industry from training, although robust data on training provision is being developed by CITB in partnership with public funding agencies, further education, higher education and employer representatives. Thus, the annual recruitment requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output. Estimates of demand are based upon the results of discussion groups comprising industry experts, a view of construction output and integrated models relating to wider national and regional economic performance. The models are dynamic and reflect the general UK economic climate at any point in time. To generate the labour demand, the models use a set of specific statistics for each major type of work to 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 year's 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:

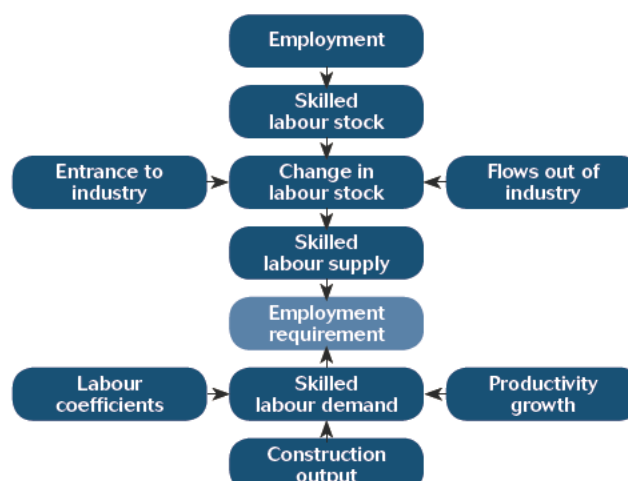
- Transfers to other industries
- International/domestic OUT migration
- Permanent retirements (including permanent sickness)
- Outflow to temporary sickness and home duties.

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

Flows into the labour market include:

- Transfers from other industries
- International/domestic immigration
- Inflow from temporary sickness and home duties.

The most significant inflow is likely to be from other industries. A summary of the model is shown in the flow chart.



## 2 Glossary of terms

**Building envelope specialists** – any trade involved with the external cladding of a building other than bricklaying, e.g. curtain walling.

**Demand** – this is calculated using construction output data from the Office for National Statistics (ONS) and the Department of Finance and Personnel Northern Ireland (DFP), along with vacancy data from the National Employer Skills Survey, produced by the Department for Education and Skills. These data sets are translated into labour requirements by trade using a series of coefficients to produce figures for labour demand that relate to forecast output levels.

**GDP** (gross domestic product) – total market value of all final goods and services produced. A measure of national income.  $GDP = GVA + \text{taxes on products} - \text{subsidies on products}$ .

**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.

**Coefficients** – to generate the labour demand, the model makes use of a set of specific statistics for each major type of work, to determine employment by trade or profession, based upon the previous year's supply. In essence, this is the number of workers of each occupation or trade needed to produce £1m of output across each sub-sector.

**LFS** (Labour Force Survey) – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training. Information is collected from around 53,000 households each quarter (the sample totals more than 100,000 people).

**LMI** (labour market intelligence) – data that is quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.

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

**Nec** – not elsewhere classified, used as a reference in LFS data.

**ONS** (Office for National Statistics) – organisation producing official statistics on the economy, population and society at both a national 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 United Kingdom Standard Industrial Classification of Economic Activities produced by the ONS.

**SOC codes** (Standard Occupational Classification codes) – from the United Kingdom Standard Occupational Classification produced by the ONS.

**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.





## 3 Notes and footprints

### Notes

- 1 Except for Northern Ireland, output data for the English regions, Scotland and Wales is supplied by the Office for National Statistics (ONS) on a current price basis. Thus, national deflators produced by the ONS have been used to deflate prices to a 2005 constant price basis, so that 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 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 43, 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 43.2.
- 7 A reporting minimum of 50 is used for the annual recruitment requirement (ARR). As a result some region and devolved nation ARR forecasts do not sum to the total UK requirement.
- 8 The Employment and ARR tables show separate totals for SIC 41-43 and SIC 41-43, 71.1 and 74.9. The total for SIC 41-43 covers the first 24 occupational groups on the relevant tables and excludes civil engineers, other construction professionals and technical staff, architects and surveyors. The total for SIC 41-43, 71.1 and 74.9 includes all occupations.

### Footprints for Built Environment SSCs

ConstructionSkills is responsible for SIC 41 Construction of buildings, SIC 42 Civil engineering, SIC 43

Specialised construction activities and SIC 71.1 Architectural and engineering activities and related technical consultancy.

The table below summarises the SIC codes (2007) 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.

ConstructionSkills shares an interest with SummitSkills in SIC 43.21 Electrical installation and SIC 43.22 Plumbing, heat and air-conditioning installation. ConstructionSkills recognises the responsibility of SummitSkills across Standard Industrial Classifications (SIC) 43.21 and 43.22; thus data relating to the building services engineering sector is included here primarily for completeness.

#### AssetSkills

**Footprint** – property services, housing, facilities, management, cleaning.

**Coverage** – property, housing and land managers, chartered surveyors, estimators, valuers, home inspectors, estate agents and auctioneers (property and chattels), caretakers, mobile and machine operatives, window cleaners, road sweepers, cleaners, domestics, facilities managers.

AssetSkills has a peripheral interest in SIC 71.1 Architectural and engineering activities and related technical consultancy.

#### 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.

ConstructionSkills	
SIC Code	Description
41.1	Development of building projects
41.2	Construction of residential and non-residential buildings
42.1	Construction of roads and railways
42.2	Construction of utility projects
42.9	Construction of other civil engineering projects
43.1	Demolition and site preparation
43.3	Building completion and finishing
43.9	Other specialised construction activities nec
71.1*	Architectural and engineering activities and related technical consultancy

AssetSkills has a peripheral interest in SIC 71.1



## 4 Definitions: types and examples of construction work

### **Public sector housing – local authorities and housing associations, new towns and government departments**

Housing schemes, care homes for the elderly and the provision within housing sites of roads and services for gas, water, electricity, sewage and drainage.

### **Private sector housing**

All privately owned buildings for residential use, such as houses, flats and maisonettes, bungalows, cottages and the provision of services to new developments.

### **Infrastructure – public and private**

#### **Water**

Reservoirs, purification plants, dams, water works, pumping stations, water mains, hydraulic works etc.

#### **Sewerage**

Sewage disposal works, laying of sewers and surface drains.

#### **Electricity**

Building and civil engineering work for electrical undertakings, such as power stations, dams and other works on hydroelectric schemes, onshore wind farms and decommissioning of nuclear power stations.

#### **Gas, communications, air transport**

Gas works, gas mains and gas storage; post offices, sorting offices, telephone exchanges, switching centres etc.; air terminals, runways, hangars, reception halls, radar installations.

#### **Railways**

Permanent way, tunnels, bridges, cuttings, stations, engine sheds etc., signalling and other control systems and electrification of both surface and underground railways.

#### **Harbours**

All works and buildings directly connected with harbours, wharves, docks, piers, jetties, canals and waterways, sea walls, embankments and water defences.

#### **Roads**

Roads, pavements, bridges, footpaths, lighting, tunnels, flyovers, fencing etc.

### **Public non-residential construction<sup>1</sup>**

#### **Factories and warehouses**

Publicly owned factories, warehouses, skill centres.

#### **Oil, steel, coal**

Now restricted to remedial works for public sector residual bodies.

#### **Schools, colleges, universities**

State schools and colleges (including technical colleges and institutes of agriculture); universities including halls of residence, research establishments etc.

#### **Health**

Hospitals including medical schools, clinics, welfare centres, adult training centres.

#### **Offices**

Local and central government offices, including town halls, offices for all public bodies except the armed services, police headquarters.

#### **Entertainment**

Theatres, restaurants, public swimming baths, caravan sites at holiday resorts, works and buildings at sports grounds, stadiums, racecourses etc. owned by local authorities or other public bodies.

#### **Garages**

Buildings for storage, repair and maintenance of road vehicles, transport workshops, bus depots, road goods transport depots and car parks.

#### **Shops**

Municipal shopping developments for which the contract has been let by a Local Authority.

#### **Agriculture**

Buildings and work on publicly financed horticultural establishments; fen drainage and agricultural drainage, veterinary clinics.

#### **Miscellaneous**

All work not clearly covered by any other headings, such as fire stations, police stations, prisons, reformatories, remand homes, civil defence work, UK Atomic Energy Authority work, council depots, museums, libraries.

## Private industrial work

Factories, warehouses, wholesale depots, all other works and buildings for the purpose of industrial production or processing, oil refineries, pipelines and terminals, concrete fixed leg oil production platforms (not rigs); private steel work; all new coal mine construction such as sinking shafts, tunnelling, etc.

## Private commercial work<sup>1</sup>

### Schools and universities

Schools and colleges in the private sector, financed wholly from private funds.

### Health

Private hospitals, nursing homes, clinics.

### Offices

Office buildings, banks.

### Entertainment

Privately owned theatres, concert halls, cinemas, hotels, public houses, restaurants, cafés, holiday camps, swimming pools, works and buildings at sports grounds, stadiums and other places of sport or recreation, youth hostels.

### Garages

Repair garages, petrol filling stations, bus depots, goods transport depots and any other works or buildings for the storage, repair or maintenance of road vehicles, car parks.

### Shops

All buildings for retail distribution such as shops, department stores, retail markets, showrooms, etc.

### Agriculture

All buildings and work on farms, horticultural establishments.

### Miscellaneous

All work not clearly covered by any other heading, e.g. exhibitions, caravan sites, churches, church halls.

## New work

### New housing

Construction of new houses, flats, bungalows only.

### All other types of work

All new construction work and all work that can be referred to as improvement, renovation or refurbishment and which adds to the value of the property.<sup>2</sup>

## Repair and maintenance

### Housing

Any conversion of, or extension to any existing dwelling and all other work such as improvement, renovation, refurbishment, planned maintenance and any other type of expenditure on repairs or maintenance.

### All other sectors

Repair and maintenance work of all types, including planned and contractual maintenance.<sup>3</sup>

<sup>1</sup> Where contracts for the construction or improvement of non-residential buildings used for public service provision, such as hospitals, are awarded by private sector holders of contracts awarded under the Private Finance Initiative, the work is classified as 'private commercial'.

<sup>2</sup> Contractors reporting work may not always be aware of the distinction between improvement or renovation work and repair and maintenance work in the non-residential sectors.

<sup>3</sup> Except where stated, mixed development schemes are classified to whichever sector provides the largest share of finance.

## 5 Occupational groups

### Occupational group

Description, SOC (2010) reference.

#### Senior, executive, and business process managers

Chief executives and senior officials	1115
Financial managers and directors	1131
Marketing and sales directors	1132
Purchasing managers and directors	1133
Human resource managers and directors	1135
Property, housing and estate managers	1251
Information technology and telecommunications directors	1136
Research and development managers	2150
Managers and directors in storage and warehousing	1162
Managers and proprietors in other services nec*	1259
Functional managers and directors nec*	1139
IT specialist managers	2133
IT project and programme managers	2134
Financial accounts managers	3538
Sales accounts and business development managers	3545

#### Construction project managers

Construction project managers and related professionals	2436
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#### Other construction process managers

Production managers and directors in manufacturing	1121
Production managers and directors in construction	1122
Managers and directors in transport and distribution	1161
Waste disposal and environmental services managers	1255
Health and safety officers	3567
Conservation and environmental associate professionals	3550

#### Non-construction professional, technical, IT, and other office-based staff (excl. managers)

IT operations technicians	3131
IT user support technicians	3132
Finance and investment analysts and advisers	3534
Taxation experts	3535
Financial and accounting technicians	3537
Vocational and industrial trainers and instructors	3563
Business and related associate professionals nec*	3539
Legal associate professionals	3520
Inspectors of standards and regulations	3565

Programmers and software development professionals	2136
Information technology and telecommunications professionals nec*	2139
Estate agents and auctioneers	3544
Solicitors	2413
Legal professionals nec*	2419
Chartered and certified accountants	2421
Business and financial project management professionals	2424
Management consultants and business analysts	2423
Receptionists	4216
Typists and related keyboard occupations	4217
Business sales executives	3542
Book-keepers, payroll managers and wages clerks	4122
Records clerks and assistants	4131
Stock control clerks and assistants	4133
Telephonists	7213
Communication operators	7214
Personal assistants and other secretaries	4215
Sales and retail assistants	7111
Telephone salespersons	7113
Buyers and procurement officers	3541
Human resources and industrial relations officers	3562
Credit controllers	4121
Company secretaries	4214
Sales related occupations nec*	7129
Call and contact centre occupations	7211
Customer service occupations nec*	7219
Elementary administration occupations nec*	9219
Chemical scientists	2111
Biological scientists and biochemists	2112
Physical scientists	2113
Laboratory technicians	3111
Graphic designers	3421
Environmental health professionals	2463
IT business analysts, architects and systems designers	2135
Conservation professionals	2141
Environment professionals	2142
Actuaries, economists and statisticians	2425
Business and related research professionals	2426
Finance officers	4124
Financial administrative occupations nec*	4129
Human resources administrative occupations	4138
Sales administrators	4151
Other administrative occupations nec*	4159
Office supervisors	4162

\*Not elsewhere classified

Sales supervisors	7130	Tool makers, tool fitters and markers-out	5222
Customer service managers and supervisors	7220	Vehicle body builders and repairers	5232
Office managers	4161		
<b>Construction trades supervisors</b>		<b>Steel erectors/structural fabrication</b>	
Skilled metal, electrical and electronic trades supervisors	5250	Steel erectors	5311
Construction and building trades supervisors	5330	Welding trades	5215
<b>Wood trades and interior fit-out</b>		Metal plate workers and riveters	5214
Carpenters and joiners	5315	Construction and building trades nec* (5%)	5319
Paper and wood machine operatives	8121	Smiths and forge workers	5211
Furniture makers and other craft woodworkers	5442	Metal machining setters and setter-operators	5221
Construction and building trades nec* (25%)	5319		
<b>Bricklayers</b>		<b>Labourers nec*</b>	
Bricklayers and masons	5312	Elementary construction occupations (100%)	9120
<b>Building envelope specialists</b>		<b>Electrical trades and installation</b>	
Construction and building trades nec* (50%)	5319	Electricians and electrical fitters	5241
<b>Painters and decorators</b>		Electrical and electronic trades nec*	5249
Painters and decorators	5323	Telecommunications engineers	5242
Construction and building trades nec* (5%)	5319		
<b>Plasterers</b>		<b>Plumbing and heating, ventilation and air conditioning trades</b>	
Plasterers	5321	Plumbers and heating and ventilating engineers	5314
<b>Roofers</b>		Pipe fitters	5216
Roofers, roof tilers and slaters	5313	Construction and building trades nec* (5%)	5319
<b>Floorers</b>		Air-conditioning and refrigeration engineers	5225
Floorers and wall tilers	5322		
<b>Glaziers</b>		<b>Logistics</b>	
Glaziers, window fabricators and fitters	5316	Large goods vehicle drivers	8211
Construction and building trades nec* (5%)	5319	Van drivers	8212
<b>Specialist building operatives nec*</b>		Elementary storage occupations	9260
Construction operatives nec* (100%)	8149	Buyers and purchasing officers (50%)	3541
Construction and building trades nec* (5%)	5319	Transport and distribution clerks and assistants	4134
Industrial cleaning process occupations	9132		
Other skilled trades nec*	5449	<b>Civil engineering operatives nec*</b>	
<b>Scaffolders</b>		Road construction operatives	8142
Scaffolders, staggers and riggers	8141	Rail construction and maintenance operatives	8143
<b>Plant operatives</b>		Quarry workers and related operatives	8123
Crane drivers	8221	<b>Non-construction operatives</b>	
Plant and machine operatives nec*	8129	Metal making and treating process operatives,	8117
Fork-lift truck drivers	8222	Process operatives nec*	8119
Mobile machine drivers and operatives nec*	8229	Metal working machine operatives	8125
		Water and sewerage plant operatives	8126
<b>Plant mechanics/fitters</b>		Assemblers (vehicles and metal goods)	8132
Metal working production and maintenance fitters	5223	Routine inspectors and testers	8133
Precision instrument makers and repairers	5224	Assemblers and routine operatives nec*	8139
Vehicle technicians, mechanics and electricians	5231	Elementary security occupations nec*	9249
Elementary process plant occupations nec*	9139	Cleaners and domestics	9233
		Street cleaners	9232
		Gardeners and landscape gardeners	5113
		Caretakers	6232
		Security guards and related occupations	9241
		Protective service associate professionals nec*	3319
		<b>Civil engineers</b>	
		Civil engineers	2121

\*Not elsewhere classified



## Other construction professionals and technical staff

Mechanical engineers	2122
Electrical engineers	2123
Design and development engineers	2126
Production and process engineers	2127
Quality control and planning engineers	2461
Engineering professionals nec*	2129
Electrical and electronics technicians	3112
Engineering technicians	3113
Building and civil engineering technicians	3114
Science, engineering and production technicians nec*	3119
Architectural and town planning technicians	3121
Draughtspersons	3122
Quality assurance technicians	3115
Town planning officers	2432
Electronics engineers	2124
Chartered architectural technologists	2435
Estimators, valuers and assessors	3531
Planning, process and production technicians	3116

## Architects

Architects	2431
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## Surveyors

Quantity surveyors	2433
Chartered surveyors	2434

\*Not elsewhere classified





## 6 CSN website and contact details

### The CSN website

[citb.co.uk/research/construction-skills-network](http://citb.co.uk/research/construction-skills-network)

The CSN website functions as a public gateway for people wishing to access the range of labour market intelligence (LMI) reports and research material regularly produced by the CSN.

The main UK report, along with the twelve LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while other CITB research reports are also freely available on the CITB website. Having access to this range of labour market intelligence and trend insight allows industry, Government, regional agencies and key stakeholders to:

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

The website also contains information about:

- How the CSN functions
- The CSN model approach
- How the model can be used to explore scenarios
- CSN team contact information
- Access to related CITB research
- Details for those interested in becoming members of the network.

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

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

- Details of specific projects
- Demand within various types of work or sectors
- Labour supply issues
- Inflows and outflows across the regions and devolved nations.

CSN members therefore have:

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

Through contact with the CITB research team CSN members can:

- Access observatory-related material such as meeting dates, agendas, presentations and notes
- Access additional research material
- Comment/feedback on the CSN process.

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

### Contact details

For further information about the CSN website, enquiries relating to the work of the CSN, or to register your interest in becoming a member of the CSN, please contact us at: [csn@citb.co.uk](mailto:csn@citb.co.uk)

For more information about the  
Construction Skills Network,  
contact:

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**Research Analyst**

**0344 994 4400**

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**[citb.co.uk](http://citb.co.uk)**



CITB, CIC and CITB-ConstructionSkills Northern Ireland are working as ConstructionSkills, the Sector Skills Council for Construction.