

# INDUSTRY INSIGHTS

Construction Skills Network  
North West 2015-2019



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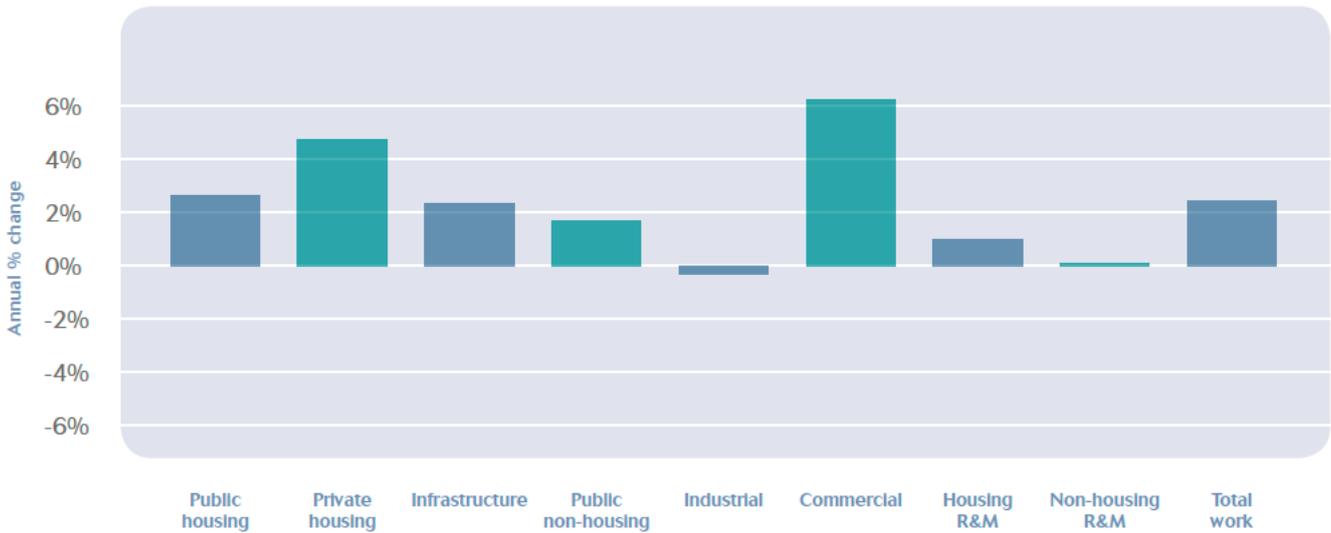
## CSN explained

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# 1 Summary – North West

The region is likely to see an annual average increase of 2.5% in construction activity over the forecast period, lower than the UK ratio of 2.9%. In 2019, construction employment is predicted to be around 288,630, the highest level since 2009. The region's annual recruitment requirement (ARR) of 4,790 accounts for 10.7% of the UK total and represents 1.7% of total projected base 2015 employment in the North West, identical to the UK's ratio.

## Annual average construction output growth 2015-2019 – North West



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



## 1.1 Key findings

In 2013 the North West's total construction output rose by 6% to £11.14bn and double digit increases were posted in the industrial, infrastructure and private housing markets. Growth in 2014 is estimated to be much smaller at around 1%.

Over the medium term the best performing sector is expected to be the commercial one with yearly expansion of 6.3% on average. There are a number of current and new projects that are planned to take place over the near future such as the redevelopment of Liverpool Football Club and the £150m Project Jennifer scheme which is also located in Liverpool. Expansion in the sector should continue into the medium term under the impetus of sustained economic improvement. However, by the end of the forecast period, the sector is still likely to be only around 63% of its 2007 peak.

An increase of 4.8% per annum on average is anticipated for the private housing sector, although most of the growth is expected in the earlier part of the forecast period. In terms of projects for the sector, one of the largest ones to be recently announced is a ten-year deal worth £1bn between Manchester City Council and the Abu Dhabi United Group, which will see over

During the first half of last year, total construction output went up by 7% compared with the preceding year.

Total construction output is expected to rise by an annual average of 3.1% over the next two years.

6,000 new homes built. Over 830 privately rented homes are to be built in 2015 in the Ancoats and New Islington areas in the first phase of the scheme.

An annual average increase of 2.7% is predicted for the public housing sector. Under the 2015-2018 Affordable Homes Programme (AHP) a total of £1.7bn will be invested across England, excluding London, however the overall finance available for the 2015-2018 AHP is much the same on an annualised basis as in 2011-15. This suggests that if output is going to rise in the sector many housing associations will need to increase their borrowing levels from private sources, which could be difficult given the level of debt already carried by some social housing providers.

Construction employment in the region is expected to experience average yearly expansion of 1.2% between 2015 and 2019, lower than the UK rate of 1.5%. Building envelope specialists are likely to see the largest growth of 3.5% per annum on average whilst most of the other occupations are also projected to see some growth.

The North West's annual recruitment requirement (ARR), at 4,790, represents 1.7% of total projected base 2015 employment, identical to the UK ratio. At 850, the largest absolute requirement is for bricklayers but, as a share of 2015 base employment, the logistics occupation (12%) will be the most sought after.

## Regional comparison 2015-2019

	Annual average % change in output	Growth in total employment	Total ARR
North East	2.3%	7,660	3,510
Yorkshire and Humber	2.3%	14,940	3,220
East Midlands	2.2%	9,340	3,120
East of England	2.5%	13,690	4,260
Greater London	4.2%	50,440	2,050
South East	2.5%	30,130	2,590
South West	3.6%	22,130	6,320
Wales	5.8%	13,890	5,320
West Midlands	2.1%	12,110	2,320
Northern Ireland	2.2%	3,220	1,490
North West	2.5%	17,130	4,790
Scotland	1.1%	1,320	5,700
UK	2.9%	196,000	44,690

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

# 2 The outlook for construction in the North West

## 2.1 Construction output in the North West – overview

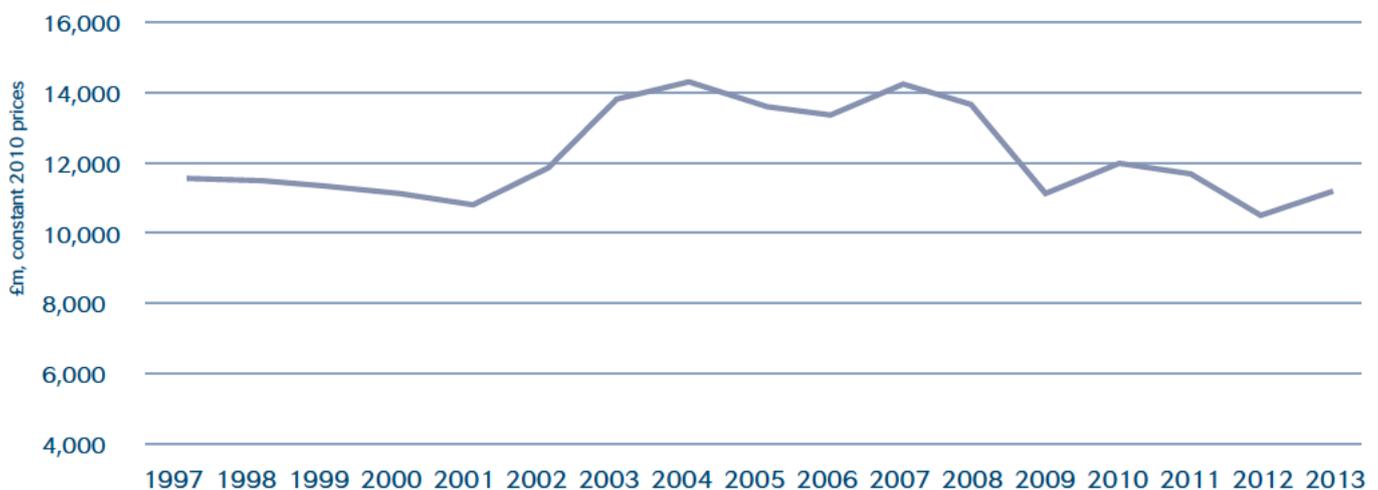
In 2013, total construction output rose by 6% to £11.14bn. The new work sector grew by 6% to £6.59bn while repair and maintenance increased by 7% to £4.55bn.

The largest expansion, of 55% to £527m, was registered in the industrial sector which is believed

to have been driven in part by the £125m of improvements to Vauxhall's Ellesmere Port factory and the start of work on distribution parks in Salford and around Manchester Airport.

Large schemes, such as the £600m power station in Carrington, also led to the infrastructure sector seeing a significant increase of 32% to £1.33bn. In contrast, the public non-housing sector experienced the greatest decline of 28% to £943m, the lowest level since 2007.

### Construction output 1997-2013 – North West



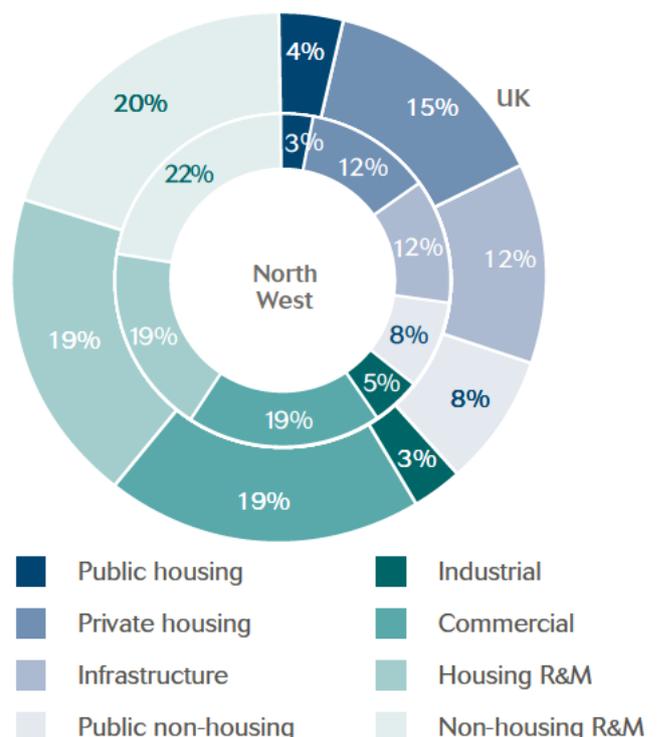
Source: ONS ref. CSN Explained, Section 3, Note 2

## 2.2 Industry structure

The diagram, Construction Industry structure 2013 – UK vs. NW, illustrates the sector breakdown of construction in the North West, compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each sector accounts for.

Overall, the structure of the North West's construction industry is similar to the UK. The shares for the region's infrastructure (12%), public non-housing (8%), commercial (19%) and housing R&M (19%) sectors are identical to that of the UK average. However, the North West's private housing market seems to be less important, with its share 3% lower than the national average, at 12%. Overall, the new work sector is proportionally a little smaller in the North West (59%) compared with the UK as a whole (62%).

### Construction industry structure 2013 – UK vs North West



Source: ONS, Experian

## 2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2015 – 2019) provides an indication of the construction sectors in which demand is likely to be strongest.

## 2.4 Economic structure

In 2013, gross value added (GVA) in the North West saw growth of 2.4% to £129.93bn in 2010 prices. As a share of the UK, the region accounted for just under a tenth of GVA.

Professional and other private services was the largest sector, accounting for 23.2% of the region's GVA in 2013, whilst public services took the next biggest share, at 20.6%. The manufacturing (14.8%) and wholesale and retail (13.1%) sectors were ranked third and fourth respectively while finance and insurance

(5.7%) was the fifth largest market. Growth rates were very variable across the top five sectors in 2013, with the wholesale and retail one recording the largest increase of 9.3%, whereas the greatest decrease of 10.3% was posted in the finance and insurance market.

The North West has a higher than average exposure to the manufacturing and public services industries whilst other sectors, such as professional and other private services and finance and insurance, are underrepresented compared to the UK as a whole.

### Economic structure – North West (£ billion, 2010 prices)

Selected sectors	Actual	Forecast					
		Annual % change, real terms					
	2013	2014	2015	2016	2017	2018	2019
Professional and other private services	30.1	5.2	3.7	3.2	3.3	2.9	2.7
Public services	26.8	1.1	0.1	-0.2	-0.4	0.2	1.1
Manufacturing	19.3	2.6	1.4	1.3	1.7	1.3	0.8
Wholesale and retail	17.0	6.9	2.9	2.2	2.2	2.1	2.1
Finance and insurance	7.4	2.0	2.5	3.0	2.9	2.7	2.7
Total Gross Value Added (GVA)	129.9	2.8	2.4	2.0	2.0	2.0	2.0

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

## 2.5 Forward looking economic indicators

In the five years to 2019, the region's GVA is projected to grow at an average yearly rate of 2.1%, lower than the national average of 2.4%.

Of the top five sectors, the professional and other private services sector is expected to see the greatest annual average expansion of 3.2%, whilst public services is projected to experience lacklustre annual average increases of 0.1%.

Real household disposable income is expected to rise by an annual average of 1.9%, lower than the UK rate of 2.2%. Average yearly increases in household spending are also projected to be lower (2.0% vs. 2.4%).

Unemployment in the region is likely to have fallen by 9.3% last year. In 2015, a moderate decline of 6.1% is expected before more modest contractions in the following years.

In 2013, the region's working age population was around 4.369m which accounted for 11% of the UK total. During the forecast period, the North West's working age population, as a share of the total population, is expected to be around 62%.

## 2.6 New construction orders – overview

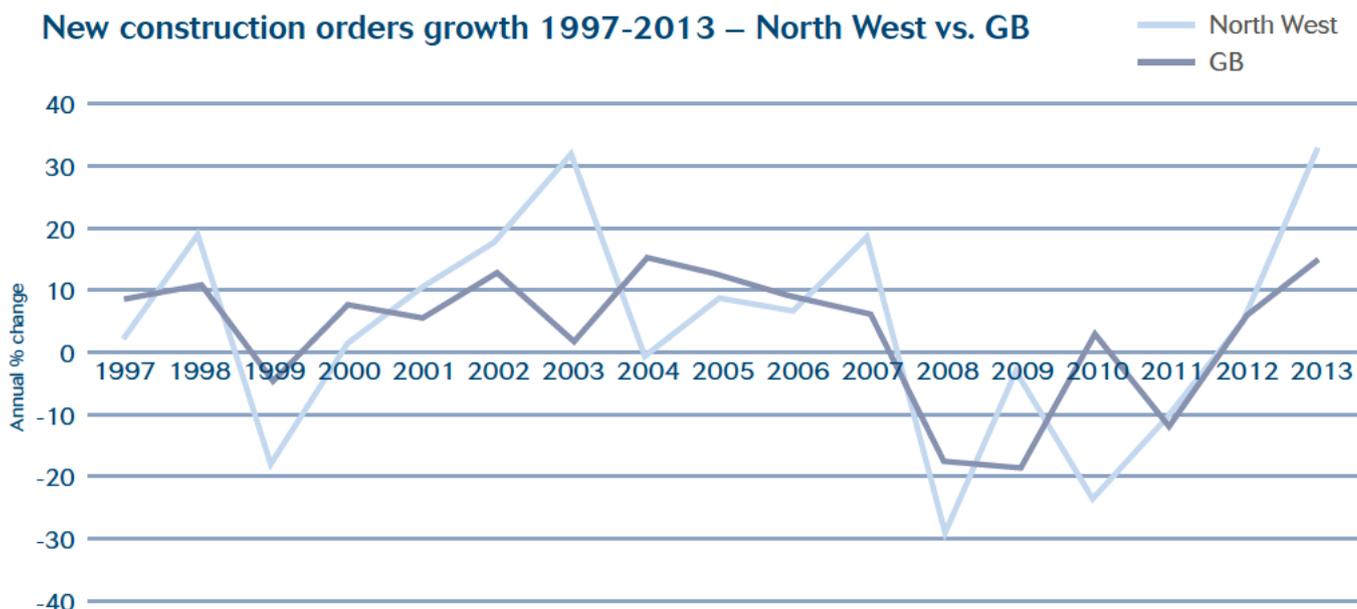
In 2013 total construction orders increased for the second successive year, by 32% to £5.91bn, around 65% of their 2007 peak. All sectors, bar the commercial one, saw growth in orders with the private housing market registering the largest jump of 67% to £1.33bn, the highest level since 2007 but still short of its 2006 peak. The industrial sector followed closely behind with a rise of 66% to £471m. The public non-housing and infrastructure ones experienced expansion of 63% and 27% respectively whilst the public housing sector posted the weakest increase of 9%.

### Economic indicators – North West (£ billion, 2010 prices – unless otherwise stated)

	Actual	Forecast					
		Annual % change, real terms					
	2013	2014	2015	2016	2017	2018	2019
Real household disposable income	100.7	1.2	1.9	1.1	2.0	2.4	2.2
Household spending	104.0	1.0	2.1	1.9	2.0	2.0	2.1
Working age population (000s and as % of all)	4,369	61.8%	62.0%	62.2%	62.1%	61.9%	61.9%
House prices (£)	162,762	5.9	6.1	3.9	3.0	3.0	3.2
LFS unemployment (millions)	0.28	-9.3	-6.1	-2.7	-1.1	-2.0	-1.2

Source: ONS, DCLG, Experian

## New construction orders growth 1997-2013 – North West vs. GB



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

## 2.7 New construction orders – current situation

Between January and June 2014, orders fell by 4% to £2.98bn compared with the corresponding period in the preceding year. The greatest decrease of 33% came from the public housing sector (£128m) whilst the public non-housing one also experienced a large drop of 32% to £662m. Double digit declines of 24% were seen in the infrastructure sector whilst the smallest decrease of 9% to £523m was posted for the commercial one. The private housing (£970m) and industrial (£208m) ones were the only markets to register growth of 83% and 9% respectively.

## 2.8 Construction output – short-term forecasts (2015–2016)

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, regional ONS construction output statistics were only available for the first two quarters of 2014.

During the first half of last year, total construction output went up by 7% to £6.23bn compared with the corresponding period in the preceding year. Of the new work sectors, only the private housing (£1.02bn) and infrastructure (£822m) ones experienced growth,

of 69% and 25% respectively. The largest fall of 33% to £236m was registered in the industrial sector whilst a decline of 14% to £993m was posted for the commercial one. The lowest contraction of 12% to £160m was seen in the public housing sector.

For 2014 as a whole, construction output in the region is estimated to have increased by a marginal 1% to £11.31bn in 2010 prices that is, removing the effects of inflation.

Total construction output is expected to rise by an annual average of 3.1% over the next two years. Growth is forecast to be much stronger in the new work sector compared with the R&M one (4.8% vs. 0.5%).

The region's commercial sector is likely to be the best performing one with annual average expansion of 8.3%. Growth is predicted to accelerate this year due to a number of small and medium sized projects planned to take place over the short term. One scheme, which is due to see work start soon, is the £150m development known as Project Jennifer in Liverpool. Plans include homes, health facilities, an indoor and outdoor market, as well as the city's largest Sainsbury's store. In addition to this, there are also plans for a petrol station and parking. The mixed-use development is due to be completed in autumn 2016. The redevelopment of Liverpool FC has finally begun

## New work construction orders – North West (£ million, current prices)

	Actual	Annual % change				
		2013	2009	2010	2011	2012
Public housing	276	18.2	-28.9	31.4	-0.8	9.1
Private housing	1330	-43.4	3.9	32.3	7.4	66.9
Infrastructure	1339	61.7	-55.9	-16.4	63.5	26.8
Public non-housing	1338	31.4	-20.4	-22.1	-31.8	62.8
Industrial	471	-49.7	-19.6	-32.4	52.7	65.8
Commercial	1160	-29.3	2.4	-12.6	0.8	-8.1
Total new work	5,914	-2.4	-23.5	-10.4	4.5	32.1

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

## Construction output – North West (£ million, 2011 prices)

	Actual 2013	Forecast annual % change			Annual average 2015-2016
		2014	2015	2016	
Public housing	356	13%	-2%	-8%	-4.7%
Private housing	1,336	24%	11%	5%	7.7%
Infrastructure	1,330	9%	9%	0%	4.3%
Public non-housing	943	1%	3%	-2%	0.7%
Industrial	527	-7%	-8%	4%	-2.3%
Commercial	2,097	-12%	11%	6%	8.3%
New work	6,589	3%	7%	2%	4.8%
Housing R&M	2,061	-9%	1%	0%	0.9%
Non-housing R&M	2,493	5%	0%	0%	0.2%
Total R&M	4,553	-1%	1%	0%	0.5%
Total work	11,142	1%	5%	2%	3.1%

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

and it is expected to complete in summer 2016 at a cost of £75m, including associated improvements to the surrounding area. Chester is also set to benefit from a large mixed use development project. The £300m scheme is due to begin at the end of 2015 and will see a new multiplex cinema, food court, market hall and car park being built. Once this is complete, developers will start on the next phase of the scheme which is a new retail centre.

An annual average increase of 7.7% is forecast for the private housing market over the short term. Whilst growth is likely to be at a double digit rate in 2015, expansion in 2016 is likely to be more subdued. Worsening affordability and interest rate rises from the second half of 2015 and tougher lending criteria introduced as a result of the Mortgage Market Review, are all expected to impact the market, although their negative effects could be, in part, mitigated by the reduction in Stamp Duty that most buyers will benefit from, which came into effect in early December 2014. In terms of projects for the sector, Manchester City Council and the Abu Dhabi United Group have recently announced a ten-year deal worth £1bn, which

will see over 6,000 new homes built. More than 830 privately rented homes are to be built in the Ancoats and New Islington areas during the first phase which starts this year.

Yearly rises of 4.3% on average are projected for the infrastructure sector. There are a number of current and future projects which should lead to near double digit growth for this year before the sector stalls in 2016. Work on the Lancashire County Council funded £123m Heysham to M6 link road commenced in June 2014 with completion planned for summer 2016. The A556 Knutsford to Bowdon improvement scheme started in November last year and construction work is expected to last around two years with an estimated cost of between £137m-£212m. A new £290m 10km-long dual carriageway road linking the A6 to Manchester Airport is planned to commence this year with the road opening planned for summer 2017.

The public non-housing sector is likely to experience the weakest expansion of 0.7% per annum on average. There is little in the way of any sizeable projects that would be likely to boost output levels in the short term.

## Annual average construction output growth 2015-2016 – North West



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

## 2.9 Construction output – long-term forecasts (2015–2019)

In the five years to 2019, the North West’s construction industry is predicted to see annual average growth of 2.5%. Whilst the R&M sector is forecast to increase by 0.5% per annum, the new work one will see a higher annual average rise of 3.8%.

Of the new work sectors, the greatest yearly expansion of 6.3% on average is likely to be experienced in the commercial market. As mentioned earlier, a number of projects are due to take place in the first half of the forecast period leading to strong growth in output in 2015. Going forwards, growth should continue albeit at a much slower rate. However by the end of the forecast period, output in the sector is still likely to be only around 63% of its 2007 peak.

A rise of 4.8% per annum on average is anticipated for the private housing sector, although most of the growth is expected in the earlier part of the forecast period. The reasons for slowing expansion stated above are likely to continue into the second half of the forecast period, impacting the likelihood of very strong growth but hopefully keeping expansion to more sustainable levels in the long term.

An annual average increase of 2.7% is predicted for the public housing sector. Under the 2015-2018 Affordable Homes Programme (AHP) a total of £1.7bn will be invested across England, excluding London. At present only £886m of that funding has been allocated. According to the Homes & Communities Agency (HCA), the North West will benefit from around 20% of this initial funding. This will support the delivery of 8,060 new affordable homes. However, the overall pot of funding available for the 2015-2018

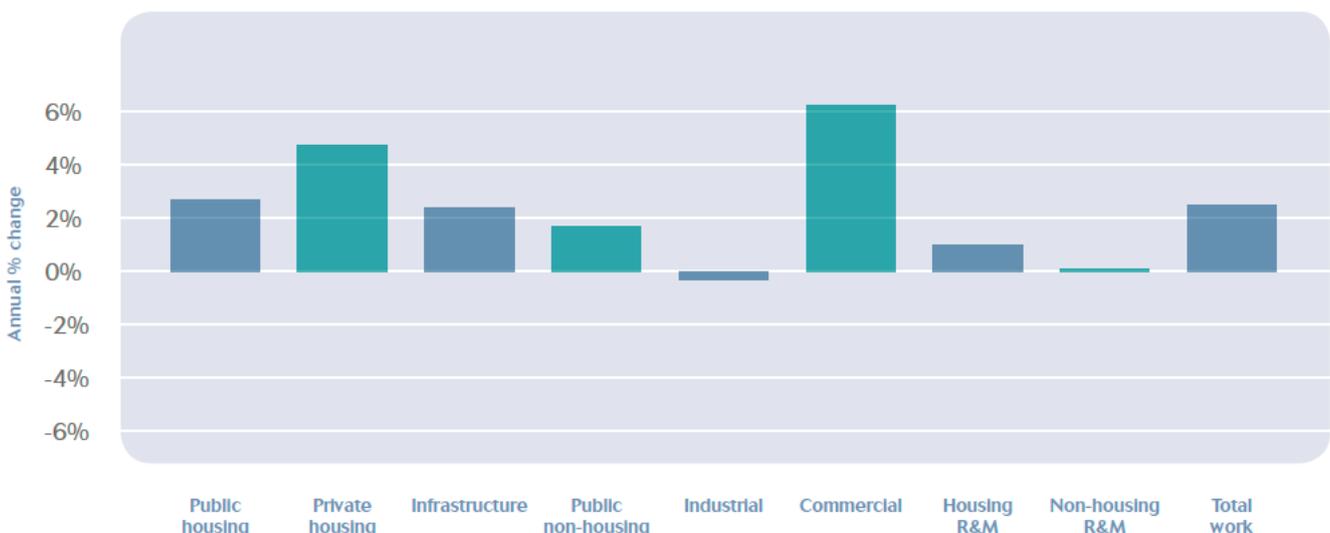
AHP is much the same on an annualised basis as in 2011-15. There are concerns that many housing associations may find increasing their borrowing levels difficult as a result of the debt levels that some already carry, which makes raising output in the sector challenging over the long term.

In the 2014 Autumn Statement it was announced that nine new road schemes will take place in the North West under the Road Investment Strategy. Construction will be carried out on schemes such as the M53 Junctions 5-11 improvements and a new junction 11a for the M56, which will serve the Runcorn area. However, work on these projects is planned to be carried out within the next two parliaments and it is therefore possible that construction may fall outside our current forecast period.

## 2.10 Beyond 2019

Proposals are being drawn up for a HS3, rail link for the north of England. It is hoped the project will improve connectivity for the north and reduce journey times once complete. Under HS3, it is believed that journey times from Manchester to Leeds could be cut from forty six minutes to twenty six minutes whilst a journey from Manchester to Newcastle could be cut from two hours twenty two minutes to less than two hours. The Government and Transport for the North, a new body which consists of the main northern city regions, will produce a transport strategy. This will include details such as route options, a delivery timetable and costs and an interim report is expected in March.

## Annual average construction output growth 2015-2019 – North West



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

## Construction output – North West (£ million, 2011 prices)

	Estimate 2014	Forecast annual % change					Annual average 2015-2019
		2015	2016	2017	2018	2019	
Public housing	401	-2%	-8%	3%	6%	15%	2.7%
Private housing	1,660	11%	5%	0%	2%	7%	4.8%
Infrastructure	1,449	9%	0%	7%	-5%	2%	2.4%
Public non-housing	954	3%	-2%	2%	4%	1%	1.7%
Industrial	492	-8%	4%	-1%	2%	3%	-0.2%
Commercial	1,847	11%	6%	6%	8%	1%	6.3%
New work	6,802	7%	2%	3%	3%	4%	3.8%
Housing R&M	1,876	1%	0%	1%	1%	1%	1.0%
Non-housing R&M	2,629	0%	0%	0%	0%	0%	0.1%
R&M	4,505	1%	0%	1%	0%	1%	0.5%
Total work	11,307	5%	2%	2%	2%	2%	2.5%

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

The region's commercial sector is likely to be the best performing one with annual average expansion of 8.3%.



## 3 Construction employment forecasts for the North West

### 3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41-43, 71.1, and 74.9) in North West for 2013, the estimated total employment across 28 occupational categories in 2014 and forecasts for the industry for 2015 to 2019. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

In 2013 the region accounted for just over a tenth of the UK construction workforce and, by 2019, total employment is likely to be approximately 93% of its 2008 peak. Overall construction employment is projected to increase by 1.2% per year on average,

lower than the UK rate of 1.5%.

Of all occupations, building envelope specialists are predicted to see the highest annual average growth rate of around 3.5% over the forecast period and by 2019 they will reach a new high of 9,180. The majority of occupations are expected to see employment growth between 2015 and 2019, with growth strongest across some of the main trades but a little lower for the professional and managerial/supervisory categories.

In 2019, the largest construction trade occupation in the region is anticipated to be wood trades and interior fit out, accounting for around 12% of the total workforce.

#### Total employment by occupation – North West

	Actual 2013	Estimate 2014	Forecast 2015	Forecast 2019
Senior, executive, and business process managers	17,340	17,760	18,100	18,920
Construction project managers	4,700	4,770	4,850	4,990
Other construction process managers	18,460	18,710	18,960	19,430
Non-construction professional, technical, IT and other office-based staff	35,550	37,010	38,170	40,890
Construction trades supervisors	3,600	3,730	3,830	4,050
Wood trades and interior fit-out	29,270	30,320	31,330	34,060
Bricklayers	7,120	7,450	7,760	8,650
Building envelope specialists	7,330	7,740	8,120	9,180
Painters and decorators	11,020	11,110	11,220	10,940
Plasterers	5,270	5,370	5,340	5,140
Roofers	5,670	6,060	6,370	7,180
Floorers	3,230	3,420	3,580	4,000
Glaziers	2,910	2,970	3,040	3,110
Specialist building operatives nec*	4,800	4,750	4,730	4,460
Scaffolders	3,230	3,160	3,090	2,920
Plant operatives	5,540	5,840	6,040	6,460
Plant mechanics/fitters	5,050	5,260	5,460	5,510
Steel erectors/structural fabrication	2,090	2,190	2,290	2,580
Labourers nec*	12,060	12,520	12,830	13,300
Electrical trades and installation	20,900	20,800	20,770	19,880
Plumbing and HVAC Trades	15,170	14,750	14,530	13,300
Logistics	2,410	2,520	2,630	2,970
Civil engineering operatives nec*	1,260	1,330	1,380	1,480
Non-construction operatives	4,050	4,130	4,180	4,320
Civil engineers	4,310	4,520	4,710	5,220
Other construction professionals and technical staff	22,410	22,990	23,540	24,700
Architects	4,280	4,420	4,540	4,830
Surveyors	5,820	5,910	6,000	6,160
Total (SIC 41-43)	228,030	233,670	238,600	247,720
Total (SIC 41-43, 71.1, 74.9)	264,850	271,510	277,390	288,630

Source: ONS, CSN, Experian ref. CSN Explained, Section 3, Notes 5, 6 and 8

### 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 to factors such as movements between industries, migration, sickness, and retirement. However, these flows do not include movements into the industry from training, due to the inconsistency and coverage of supply data. 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 total ARR for the North West has a green light indicating that there is a relatively low requirement for extra employees during the forecast period. At 4,790, the ARR represents 1.7% of base 2015 employment, identical to the UK ratio.

In absolute terms the largest requirement is for bricklayers (850), equivalent to 18% of the region's total ARR. However, as a proportion of base 2015 employment, the logistics occupation is likely to be most in demand (12%). Civil engineering operatives

nec., bricklayers, plasterers and glaziers also have a high ARR in relation to base 2015 employment.

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

	2015 - 2019
Senior, executive, and business process managers	-
Construction project managers	-
Other construction process managers	-
Non-construction professional, technical, IT and other office-based staff	130
Construction trades supervisors	130
Wood trades and interior fit-out	700
Bricklayers	850
Building envelope specialists	350
Painters and decorators	400
Plasterers	360
Roofers	260
Floorers	160
Glaziers	160
Specialist building operatives nec*	-
Scaffolders	-
Plant operatives	-
Plant mechanics/fitters	160
Steel erectors/structural fabrication	100
Labourers nec*	260
Electrical trades and installation	260
Plumbing and HVAC Trades	-
Logistics	310
Civil engineering operatives nec*	160
Civil engineers	-
Other construction professionals and technical staff	-
Architects	<50
Surveyors	-
Total (SIC 41-43)	4,750
Total (SIC 41-43, 71.1, 74.9)	4,790

Source: CSN, Experian  
ref. CSN Explained, Section 3, Notes 7 and 8  
\*Not elsewhere classified

## 4 Comparisons across the UK

Despite ongoing delays to the nuclear new build programme, Wales is still projected to have the strongest output growth, despite the start on main construction works at Wylfa unlikely before the beginning of 2019. Nuclear new build still remains in the forecast period for the South West, where main construction works on Hinkley Point C should begin in 2015, helping to boost the region's annual average output growth rate to 3.6%.

Greater London slips in between Wales and the South West, with projected annual average output expansion of 4.2%, benefiting from very strong demand for housing, both public and private, despite recent indications that house prices in the capital are stabilising, and good growth in the commercial construction sector. Together, these three sectors accounted for 44% of London's construction output in 2013, well above the UK average (38%), and so are proportionally providing a stronger driver for overall growth in the capital compared with elsewhere.



While most UK regions and nations are expected to experience quite strong growth in private housing output to 2016, with a slowdown to more sustainable levels thereafter, the prospects for public housing are much more uncertain as the current Affordable Housing Programme (AHP) winds down to April 2015. The overall pot of funding available from central Government for 2015-18 is much the same on an annualised basis as in 2011-15 and there are concerns that many housing associations may find increasing their borrowing levels from private sources more problematical in the future.

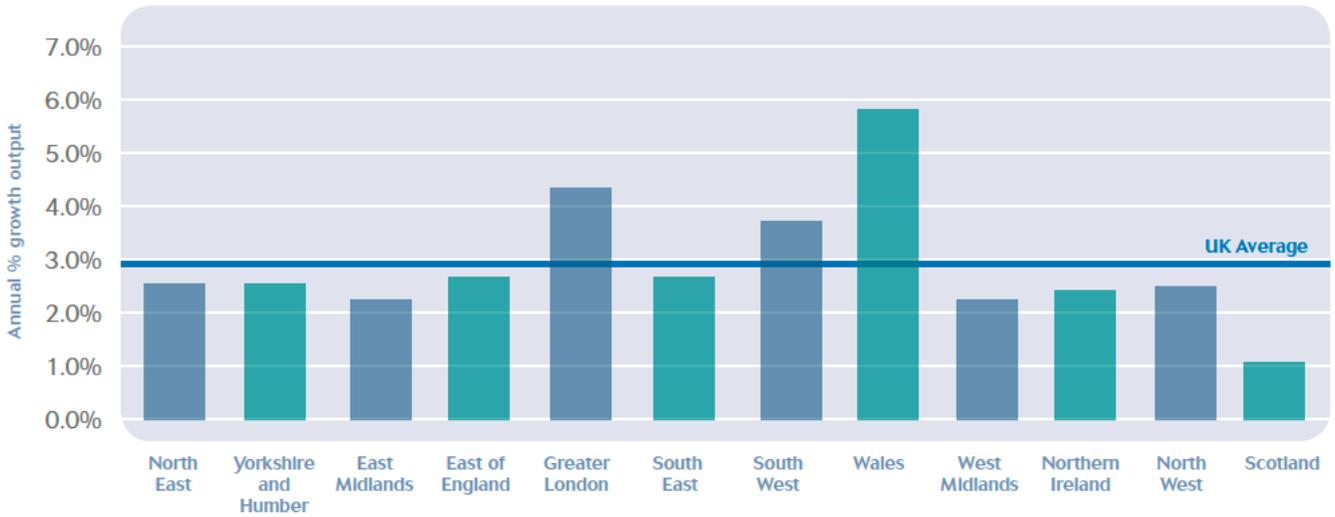
Outside of the South West, infrastructure growth is likely to be strongest in the North East and Wales, the former being driven by £400m of roads work in the Highways Agency's Area 14, which covers the region, with the latter benefiting from Great Western Line electrification, road upgrades, energy works such as Swansea's tidal lagoon and, of course, nuclear new build at Wylfa in Anglesey.

Strongest growth in commercial construction is expected in Yorkshire and the Humber (annual average growth of 6.3%), the North West (6.3%), Wales (5.9%) and Greater London (5.7%). South Yorkshire, in particular, seems to be benefiting from the reactivation of retail-led projects mothballed during the 'great recession', while Wales is seeing an upsurge in conference and exhibition venue construction.

Annual average employment growth rates across the regions and nations tend to cluster within plus or minus half a percent of the UK average of 1.5%. The exceptions are Greater London and Wales (2.4%), and Scotland (0.1%). For Greater London workforce demand is in the main driven by growth in the sectors mentioned above, but even in the infrastructure one, which is already at a historic high in output terms, further expansion is expected over the next five years. Employment demand in Wales inevitably benefits from the start of main works on Wylfa, despite the fact that infrastructure is less labour intensive than many other sectors. Wylfa is a very large project in a relatively small market. Scotland's relatively poor projected output growth rate (1.1% a year on average) is only just enough to drive marginal employment growth given anticipated productivity gains.

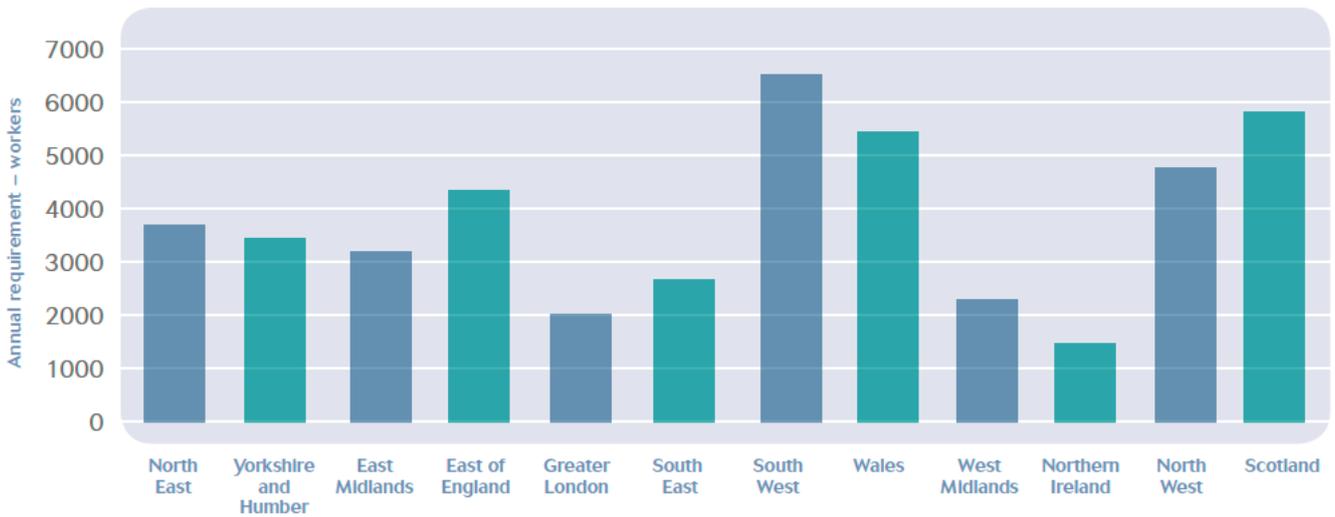
Despite London's strong employment demand, its annual recruitment requirement (ARR) only equates to around 0.5% of projected 2015 employment. This is because the region acts as a natural magnet for the construction workforce within the UK and beyond. In contrast, Wales' strong employment demand is supplemented on the supply side by traditional employment outflows to other regions, especially the North West and South West, and also has a much higher ARR ratio, of 4.8%. Most other regions and nations have an ARR ratio of within a percentage point of the UK average (1.7%).

### Annual average output growth by region 2015-2019



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

### Annual recruitment requirement (ARR) by region 2015-2019



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 (SSC) or Sector Bodies.

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, other SSCs and Sector Bodies, 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, other SSCs and Sector Bodies. 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 **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:

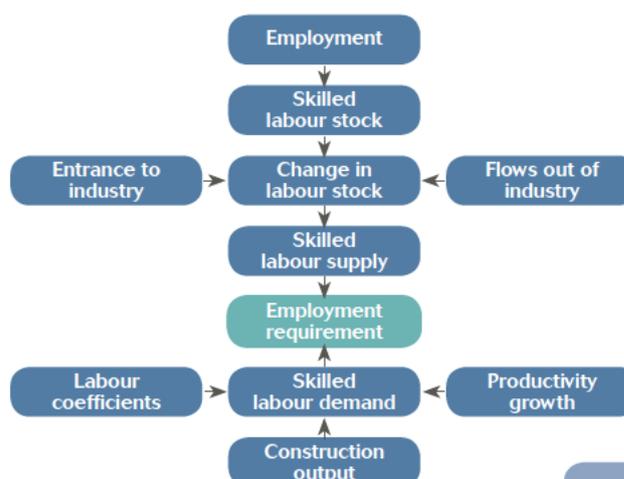
- Transfers to other industries
- International/domestic out migration
- Permanent retirements (including permanent sickness)
- Outflow to temporary sickness and home duties.

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 below.



## 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.  $GDP = GVA$  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.

**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 SIC41-43 and SIC41-43, 71.1 and 74.9. The total for SIC41-43 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 SIC41-43, 71.1 and 74.9 includes all occupations.

### Footprints for Built Environment Sector Bodies

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

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

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 Sector Bodies 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 Summit Skills 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.

#### The Building Futures Group

**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.

The Building Futures Group 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.

\*The Building Futures Group 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>

1 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'.

2 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.

3 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
Sales supervisors	7130
Customer service managers and supervisors	7220
Office managers	4161

**Construction trades supervisors**

Skilled metal, electrical and electronic trades supervisors	5250
Construction and building trades supervisors	5330

**Wood trades and interior fit-out**

Carpenters and joiners	5315
Paper and wood machine operatives	8121
Furniture makers and other craft woodworkers	5442
Construction and building trades nec* (25%)	5319

**Bricklayers**

Bricklayers and masons	5312
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**Building envelope specialists**

Construction and building trades nec* (50%)	5319
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**Painters and decorators**

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

**Plasterers**

Plasterers	5321
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**Roofers**

Roofers, roof tilers and slaters	5313
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**Floorers**

Floorers and wall tilers	5322
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**Glaziers**

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

**Specialist building operatives not elsewhere classified (nec\*)**

Construction operatives nec* (100%),	8149
Construction and building trades nec* (5%)	5319
Industrial cleaning process occupations	9132
Other skilled trades nec*	5449

**Scaffolders**

Scaffolders, staggers and riggers	8141
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**Plant operatives**

Crane drivers	8221
Plant and machine operatives nec*	8129
Fork-lift truck drivers	8222
Mobile machine drivers and operatives nec*	8229

**Plant mechanics/fitters**

Metal working production and maintenance fitters	5223
Precision instrument makers and repairers	5224
Vehicle technicians, mechanics and electricians	5231
Elementary process plant occupations nec*	9139
Tool makers, tool fitters and markers-out	5222
Vehicle body builders and repairers	5232

**Steel erectors/structural fabrication**

Steel erectors	5311
Welding trades	5215
Metal plate workers and riveters	5214
Construction and building trades nec* (5%)	5319
Smiths and forge workers	5211
Metal machining setters and setter-operators	5221

**Labourers nec\***

Elementary construction occupations (100%)	9120
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**Electrical trades and installation**

Electricians and electrical fitters	5241
Electrical and electronic trades nec*	5249
Telecommunications engineers	5242

**Plumbing and heating, ventilation, and air conditioning trades**

Plumbers and heating and ventilating engineers	5314
Pipe fitters	5216
Construction and building trades nec* (5%)	5319
Air-conditioning and refrigeration engineers	5225

**Logistics**

Large goods vehicle drivers	8211
Van drivers	8212
Elementary storage occupations	9260
Buyers and purchasing officers (50%)	3541
Transport and distribution clerks and assistants	4134

**Civil engineering operatives not elsewhere classified (nec\*)**

Road construction operatives	8142
Rail construction and maintenance operatives	8143
Quarry workers and related operatives	8123

**Non-construction operatives**

Metal making and treating process operatives	8117
Process operatives nec*	8119
Metal working machine operatives	8125
Water and sewerage plant operatives	8126
Assemblers (vehicles and metal goods)	8132
Routine inspectors and testers	8133
Assemblers and routine operatives nec*	8139
Elementary security occupations nec*	9249
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

\*Not elsewhere classified

## Civil engineers

Civil engineers 2121

## 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

## Surveyors

Quantity surveyors 2433

Chartered surveyors 2434



## 6. CSN Website and contact details

### The CSN website

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

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

The main UK report, along with the twelve LMI reports (one for Northern Ireland, Scotland, Wales and each of the nine English regions) can be downloaded from the site, while 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
- Inflows and outflows across the regions and devolved nations.

CSN members therefore have:

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

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

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

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

### Contact details

For further information about the CSN website, 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  
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