

# INDUSTRY INSIGHTS

Construction Skills Network  
Forecasts 2016–2020

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**Northern Ireland 2016–2020**



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## SECTION 1

# SUMMARY – NORTHERN IRELAND

# 3%

Northern Ireland is projected to see annual average output growth of 3% over the 2016 to 2020 period, higher than the UK rate of 2.5%. Average growth rates are expected to be higher for new work (3.4%) than repair and maintenance (1.8%), with the latter sector remaining proportionally smaller than the UK average. This output growth rate should generate annual average employment growth of 1.5% over the forecast period, again above the UK average of 1.1%. Northern Ireland's annual average recruitment requirement (ARR), at 1,760, represents 2.8% of base 2016 employment.

### Key Findings

2015 was finally the year that the Northern Ireland construction industry started to see some real growth after a long period of severe contraction. Expansion could be in excess of 7% in real terms with rises in activity across most sectors.

Increasing output is projected to continue throughout the forecast period with growth strongest in the earlier years and subsiding somewhat towards 2020. The annual average output growth rate of 3% is the fourth strongest across the UK and if realised will take output up to £2.7bn in 2012 prices by 2020. This will still be 29% below its peak level in 2007, but represents a considerable improvement on 2014's outturn. Given that in the peak years private housing output in the devolved nation was running at unsustainable levels, 2007's peak of over £3.7bn (2012 prices) is probably an unrealistic target and a level around £3bn may represent a natural high.

Housing, both public and private should perform well over the forecast period, with annual average growth of over 3%. House price growth remains robust, and big development projects such as the 1,800 home Ballyclare West scheme should provide strong output streams for a number of years. Growth in the infrastructure sector is likely to be driven by a rising level of water and sewerage work under PC15 in the short term and a continuing

pipeline of transport projects, while hospitals and education work should benefit the public non-housing sector. The commercial construction sector is seeing an upsurge in hotel building work as Northern Ireland successfully rebrands itself as a tourist destination.

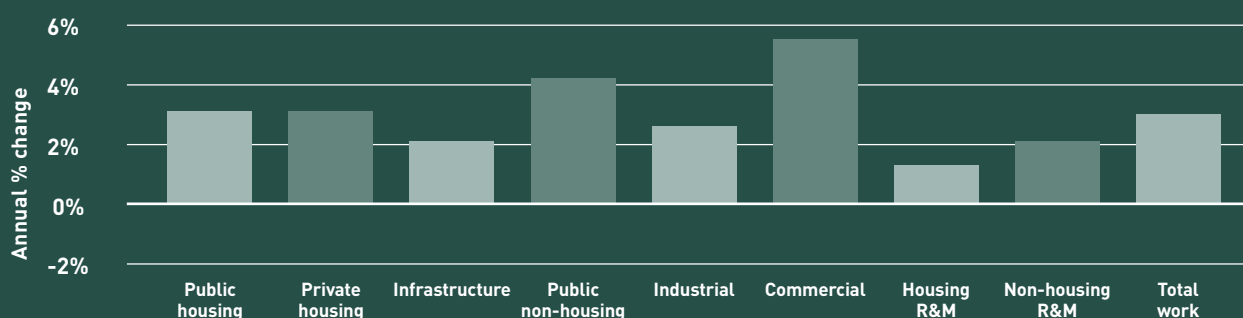
Employment growth is projected to average 1.5% a year over the 2016 to 2020 period, above the UK rate of 1.1%. This implies a productivity gain of 1.5% a year in Northern Ireland, higher than in the 2015 to 2019 period, but probably necessary given the poor performance of the industry in this area in recent years. However, it should be remembered that different construction sectors are more or less labour intensive and therefore changes in 'implied' productivity can be as much to do with relative sector growth rather than any change in 'real' productivity.

Demand is projected to be strongest in some of the managerial/supervisory and professional occupational categories, especially construction project managers (2.9%), construction trades supervisors (3.2%), and architects (3.1%), but some trades show strong growth as well, such as bricklayers (3.7%) and wood trades and interior fit out (3.4%).

Northern Ireland's ARR, at 1,760 for the 2016 to 2020 period shows further growth from last year when the requirement was for 1,490 a year on average between 2015 and 2019. This represents a considerable expansion of the ARR since its low of 660 forecast in 2012 for the 2013 to 2017 period.



## ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2020 – NORTHERN IRELAND



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

## REGIONAL COMPARISON 2016-2020

	Annual average % change in output	Change in total employment	Total ARR
North East	1.5%	3,260	3,160
Yorkshire and Humber	2.4%	8,360	3,230
East Midlands	1.0%	1,210	3,110
East of England	2.3%	13,950	3,910
Greater London	3.5%	42,670	3,650
South East	0.9%	2,110	1,730
South West	4.4%	25,850	6,480
Wales	7.1%	17,490	5,440
West Midlands	1.7%	10,200	3,030
Northern Ireland	3.0%	4,660	1,760
North West	2.6%	22,430	6,650
Scotland	0.5%	-7,360	4,270
<b>UK</b>	<b>2.5%</b>	<b>144,830</b>	<b>46,420</b>

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

Since returning to growth in 2015, construction output in Northern Ireland can expect annual average growth of 3% over the next five years.



## SECTION 2

# THE OUTLOOK FOR CONSTRUCTION IN NORTHERN IRELAND

### 2.1 Construction output in Northern Ireland – overview

After six years of contraction, which took the construction sector in Northern Ireland in 2013 down to just 57% of its 2007 peak, output finally stabilised in 2014 at £2.16bn in 2012 prices. New work still declined marginally, by 1%, but repair & maintenance output rose by 3%, with growth particularly strong in housing.

Public new housing continued to decline sharply from its 2012 peak but private housing output stabilised at £375m (2012 prices), although this is less than a third of the level seen in the mid-2000s. Infrastructure output fell sharply, by 15%, but public non-housing and commercial work was up, by 26% and 17% respectively.

### 2.2 Industry structure

The diagram, Construction Industry Structure 2014 – UK vs. Northern Ireland, illustrates the sector breakdown of construction in Northern Ireland, compared to that in the UK. Effectively, the percentages for each sector illustrate what proportion of total output each accounts for.

The structure of Northern Ireland's construction industry remains significantly different from the UK, with a higher prevalence of new work and a lower proportion of repair and maintenance (R&M), particularly in the housing sector, although the gap is closing. This has implications for construction employment in the devolved nation as it is generally recognised that R&M activity is more labour intensive than new work.

Of the new work sectors, the infrastructure and public non-housing sectors were proportionally more important in Northern Ireland than the UK in 2014, taking shares of total construction output of 17% and 16% respectively in the former compared with 11% and 8% in the latter. Conversely, the commercial sector is less important in the devolved nation, accounting for only 10% of output in Northern Ireland compared with 19% in the UK as a whole.

### 2.3 Economic overview

The expected performance of a regional or national economy over the forecast period (2016–2020) provides an indication of the construction sectors in which demand is likely to be strongest.

### 2.4 Economic structure

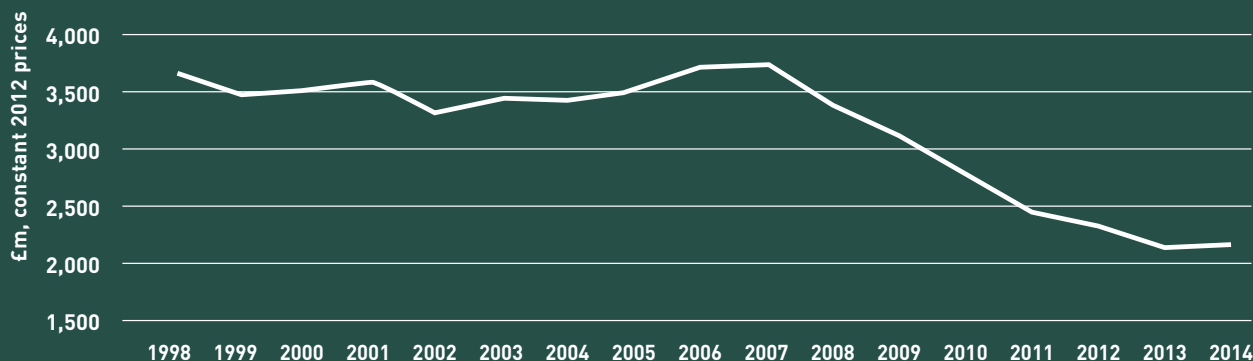
Gross value added (GVA) is estimated to have reached £32.6bn in 2012 prices, a 2.5% rise on the previous year, but lower than the 3% increase seen in the UK.

GVA growth in Northern Ireland almost always suffers in comparison with the UK due to its different economic structure. The industrial structure of the Northern Ireland economy has a marked bias towards public services, which still account for 29.5% of GVA (18.8% in UK), the highest proportion of any UK region. However, this represents a reduction from the sector's 35% share in 2000.

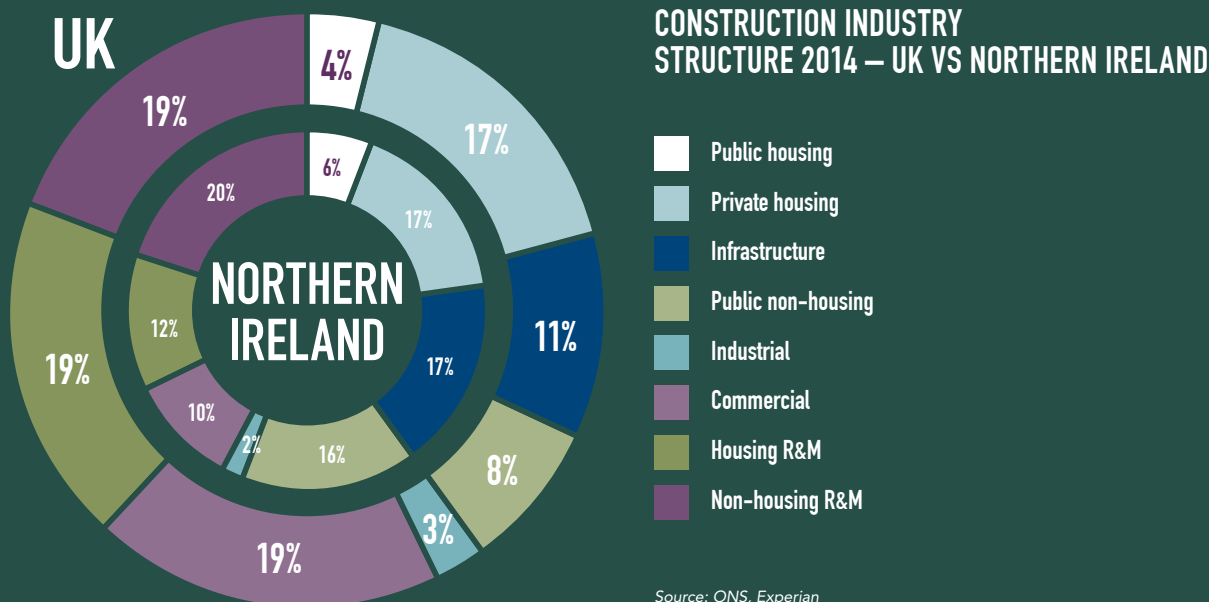
Manufacturing's share in the economy has been reducing in the past 14 years but less so than in some other parts of the UK. The sector's share of total output has fallen from 15.5% to 13.4%, but it is leaner and fitter and has recently expanded at a strong pace.

However, sectors with strong growth have increased their share of the economy, improving variety in the overall economic structure. The strongest rise has been in professional and other private services where growth since 2000 has averaged 3.3% a year (even including the bleak period during the recession) and its share of GVA has increased from 14.7% to 18.4%. Wholesale and retail trade grew steadily prior to 2007, faltered during the recession, but has recovered strongly in the past two years.

## CONSTRUCTION OUTPUT 1998-2014 – NORTHERN IRELAND



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



Source: ONS, Experian

# 29.5%

THE HIGHEST PUBLIC SERVICES GVA OF ANY REGION



## 2.5 Forward looking economic indicators

Northern Ireland's heavier reliance on the slower expanding public services and manufacturing sectors means GVA growth will continue to lag the UK average, by half a per cent a year to 2020 (1.9% vs 2.4%).

This is an almost inevitable consequence of the size of the public services sector in the devolved nation and the fact that ongoing pressure on public finances will mean that growth in the sector to 2020 will be a very modest 0.6% a year on average.

Growth is expected to be strongest in the mining and quarrying (3.4% a year on average) and finance and insurance (3.1%) sectors, but the size of the former is tiny and the latter only accounts for just over 4% of Northern Ireland's GVA.

Of the larger sectors, professional and other private services is projected to perform best with an annual average growth rate of 2.8%. Manufacturing output growth is expected to be a moderate 1.9% a year, in line with the UK average.

Real household disposable income is forecast to expand at an annual average rate of 1.4%, again around half a per cent slower than the UK rate. The boost to GVA from expanding population will also be lower with population growth averaging around 0.6% a year in Northern Ireland compared with 0.8% in the UK.



## 2.6 Construction output – short-term forecasts (2016–2017)

Construction output data for Northern Ireland is published by the Department of Finance and Personnel and at the time of writing data was available for the first half of 2015, although unlike any of the English regions and other devolved nations, an estimate of output in constant prices is made. No new orders data is available for Northern Ireland.

Output in the first half of 2015 totalled £1.2bn in 2011 prices, 13% up on the previous half year. The annualised total in the second quarter of last year, at £2.3bn, was 8% higher than in the final quarter of 2014, with good performances from the housing, public non-housing and industrial sectors. Therefore, it looks like 2015 was a year of strong real growth, although output has a long way to go before it begins to approach pre-recessionary levels again.

The overall short-term forecast for Northern Ireland construction is for a very healthy annual average growth rate of close to 5% in 2016 and 2017, with strong performances in the public non-housing, industrial and commercial sectors. However, this does need to be put in the context of a 37% contraction in the industry between 2008 and 2013. It should be noted, however, that the forecast for Northern Ireland is predicated on a reasonably speedy resolution to the current political and budgetary uncertainty.

A decline in public housing output was almost inevitable from its very strong 2012 peak, which was 40% higher than its long-term average, and this proved to be the case with sharp falls in the following two years. On average, output is expected to be flat in 2016 and 2017 as a year of decline is followed by a similar rate of expansion. Fold Housing Association, which manages around 6,000 social housing properties in Northern Ireland, recently agreed financing of £35m from Barclays, taking its total private finance 'pot' to over £100m. The housing association is looking to build an extra 200 units a year for the next three years, a significant proportion of likely public housing starts over the period.

Generally, most indicators continue to suggest a relatively buoyant private housing market and this should drive demand for more residential building, particularly as the number of starts still lags what is considered necessary in many quarters to meet demand. However, issues such as land availability remain on the supply side, and a significant proportion of owner-occupiers in the province are still in negative equity.



## ECONOMIC STRUCTURE – NORTHERN IRELAND (£ BILLION, 2012 PRICES)

Selected sectors	Actual	Forecast Annual % change, real terms					
	2014	2015	2016	2017	2018	2019	2020
Public services	9.6	0.2	-0.1	-0.3	0.3	1.0	2.0
Professional and other private services	6.0	3.1	3.2	3.0	2.9	2.5	2.2
Wholesale and retail	4.8	4.2	2.3	2.3	2.3	2.1	2.1
Manufacturing	4.4	0.6	1.5	2.8	2.8	1.4	1.0
Finance and insurance	1.3	1.1	3.6	3.8	3.2	2.6	2.2
<b>Total Gross Value Added (GVA)</b>	<b>32.6</b>	<b>1.9</b>	<b>1.8</b>	<b>1.9</b>	<b>2.1</b>	<b>1.9</b>	<b>2.0</b>

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

## ECONOMIC INDICATORS – NORTHERN IRELAND (£ BILLION, CURRENT PRICES – UNLESS OTHERWISE STATED)

Selected sectors	Actual	Forecast Annual % change, real terms					
	2014	2015	2016	2017	2018	2019	2020
Household disposable income	27.2	3.2	1.1	1.5	1.7	1.1	1.7
Household spending	28.0	2.1	1.7	1.9	1.9	1.9	2.0
Working age population (000s and as % of all)	1,146	62.6%	62.7%	62.5%	62.4%	62.4%	62.7%
House prices (£)	138,000	8.6	3.5	3.0	2.1	2.2	2.9
LFS unemployment (millions)	0.07	-5.9	-7.9	-0.5	0.2	0.4	-0.2

Source: ONS, DCLG, Experian

# 2.3%

## HOUSE PRICE GROWTH ACCELERATION IN THE FIRST QUARTER



After slowing to just 0.6% in the final quarter of 2014, quarter-on-quarter house price growth accelerated again to 2.3% and 1.6% respectively in the first two quarters of 2015 according to the ONS' mixed-adjusted series. Year-on-year growth hit 11.1% in the first quarter of last year, the highest since the final quarter of 2007, but fell back slightly to 10.6% in the second quarter. Both the Nationwide and Halifax indices also show a strong upward trend, with the former reporting quarter-on-quarter growth of 3% in the second quarter of 2015 and a year-on-year increase of 8%, while the figures from the Halifax are 9.9% and 12% respectively.

However, not all indicators are so positive. After growth of 20% in 2014 the number of verified property sales fell by nearly 8% in the first half of last year compared to the same period of 2014, to 8,976, according to Land & Property Services.

Nevertheless, the prognosis is for reasonable growth in private housing output, approaching 4% a year over the short term.

The infrastructure sector is likely to have seen growth in 2015 but thereafter things become less clear, particularly in light of the political and budgetary uncertainty, which could well affect the delivery of projects across the public sector. Nevertheless, if the PC15 programme of investment follows the same profile as the AMP programmes do in England, then water and sewerage work should be on an upward path for the next couple of years or so. Phase 2 of the Coleraine to Londonderry rail line has been joined by track rehabilitation work between Knockmore and Lurgan. Enabling works on the £15m to £20m project started in July 2015 with construction to continue to the end of 2018. However, overall growth is expected to be negligible in the short term. There are a number of bigger transport projects in the pipeline, but they are more likely to commence in the second part of the five-year forecast period.

2015 is likely to have been another good year for the public non-housing sector, the best for the sector since 2009. Growth is expected to be moderate over the forecast period, although if the current political uncertainty already mentioned persists, it could turn into decline if it results in project delays. In the health sub-sector, the largest project currently under construction is Phase 2 of the Ulster Hospital redevelopment in Belfast. The £180m to £200m scheme started in 2013 and is due to complete by the end of 2016. Phase 5.1 of the Altnagelvin redevelopment, worth £60m to £70m is likely to have started at the end of last year.

Given its small size and short lead times it remains difficult to predict the future path of the Northern Ireland industrial construction sector. While the pipeline of work dropped sharply between the spring and autumn of 2015 according to Glenigan, it could equally bounce back as strongly over the following six months as a result of the short gestation period for projects of this type.

As is the case for the industrial sector the economic environment for commercial construction remains benign. In particular, the promotion of Belfast as a tourist destination seems to have gained some traction, leading to a rising requirement for hotel space in the city. There are a number of schemes in the pipeline including a new 200 bedroom Grand Central Hotel in the Cathedral Quarter, for which planning permission was granted last October, a new boutique hotel on Bank Square, and the expansion of Benedicts Hotel on Bradbury Place. However, even for the private sectors the current political and budgetary uncertainty needs to be resolved or it could start to impact negatively on potential investors' views of the area.

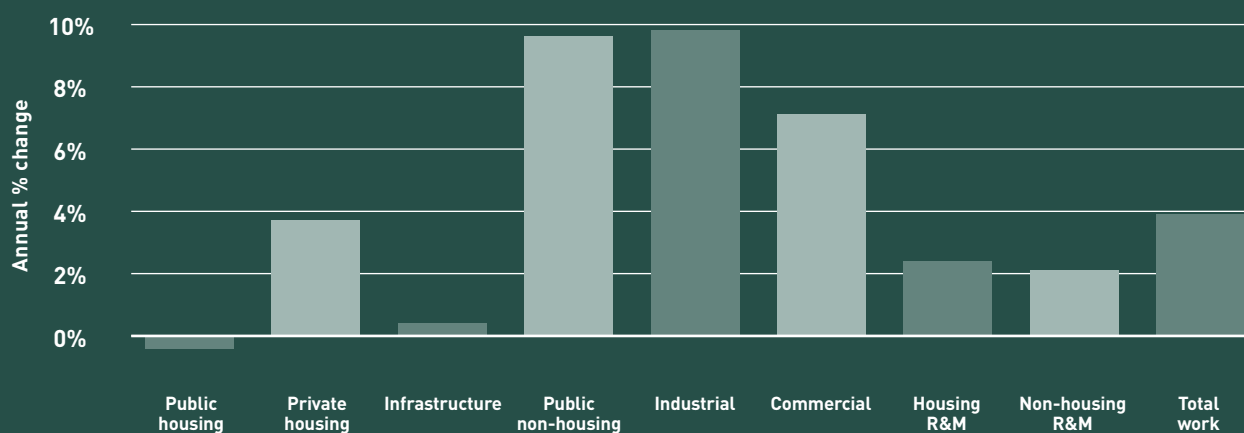


## CONSTRUCTION OUTPUT – NORTHERN IRELAND (£ MILLION, 2012 PRICES)

	Actual	Forecast annual % change			Annual average
	2014	2015	2016	2017	2016-2017
Public housing	131	-4%	-8%	8%	-0.4%
Private housing	375	3%	4%	3%	3.7%
Infrastructure	375	23%	0%	0%	0.4%
Public non-housing	344	12%	12%	7%	9.6%
Industrial	36	17%	12%	8%	9.8%
Commercial	227	6%	7%	7%	7.1%
<b>Total new work</b>	<b>1,488</b>	<b>10%</b>	<b>5%</b>	<b>4%</b>	<b>4.6%</b>
Housing R&M	248	0%	4%	1%	2.4%
Non-housing R&M	422	-2%	2%	2%	2.1%
<b>Total R&amp;M</b>	<b>671</b>	<b>-1%</b>	<b>3%</b>	<b>1%</b>	<b>2.2%</b>
<b>Total work</b>	<b>2,159</b>	<b>7%</b>	<b>4%</b>	<b>4%</b>	<b>3.9%</b>

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

## ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2017 – NORTHERN IRELAND



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



## 2.7 Construction output – long-term forecasts (2016–2020)

For the first time in many years, the prognosis for the Northern Ireland construction industry is stronger than that for the UK, with the former projected to see annual average output growth of 3% over the five years to 2020, compared with 2.5% for the latter.

Growth is expected across all sectors with private housing, public non-housing and commercial being the strongest.

Moderate growth of around 3% a year on average is forecast for the public housing sector between 2016 and 2020. The Northern Ireland Infrastructure Investment Pipeline published in September shows an allocation of between £80m and £100m to fund the construction of up to 2,500 new social and affordable homes by housing associations, but provides no details of the timescales for this funding.

Growth in private housing output is expected to slow slightly over the longer term, but to still remain reasonably robust at slightly over 3% a year on average. By 2020 output should be approaching £500m in 2012 prices, getting back up to the sort of level that would be expected on a per capita basis. One of the biggest tranches of land for residential development has recently been purchased, the 165-acre site outside Ballyclare in County Antrim. It has outline planning permission for up to 1,800 residential units.

Infrastructure growth is likely to be driven mainly by projects in the transport arena. The A8 Belfast – Larne dualling project, worth £120m to £140m has now been completed. Procurement for the dualling of the A6 between the M22 and Castledawson roundabout, a project of similar size, has now been concluded, although work on the project is not due to start until the end of 2017. The York Street interchange has now entered pre-procurement stage, with an estimated value of between £100m and £120m. Over the whole of the forecast period, relatively modest growth of less than 2% a year is expected.

The prognosis for the public non-housing sector is positive, with annual average growth of over 4% forecast for the five years to 2020, largely driven by projects in the health and education sectors. The first two phases of the Regional Children's Hospital are now on site at the Royal Group of Hospitals in Belfast, with two further phases due to start during the forecast period. In total the project is worth between £200m and £230m with construction due to continue until 2021. The School Enhancement Programme has moved from initiation to pre-procurement stage and is worth between £35m to £40m, covering extensions and refurbishments to the schools estate. The regional college building programme is now in pre-procurement, with six schemes worth in total between £160m and £190m.

There are also a couple of big prison projects in the pipeline, covering the redevelopment of Hydebank women's prison and Magilligan Prison, and a smaller project to upgrade visitor facilities at Maghaberry prison. All three are scheduled to enter procurement either this year or 2017 and their total value is estimated at between £192m and £220m.

A benign economic environment should provide the impetus for expansion in the industrial construction sector over the 2016 to 2020 period. Manufacturing output growth is expected to average around 1.9% over the 2016 to 2020 period while for transport and storage the rate should be higher at 2.5%. This suggests that demand for distribution and logistics facilities is likely to be stronger than for factories.

Of the sectors that drive demand for new commercial premises, finance and insurance is projected to fare best with annual average expansion of around 3.1%, followed by information and communication at 2.9% and professional and other private services at 2.8%. Growth in wholesale and retail and accommodation, food services and recreation is likely to be a little lower at 2.2%. Further works at the Titanic Quarter are likely over the forecast period. Property analysts are reporting an expansion of big names into the devolved nation, with Sports Direct, Life Style Sports, Gap, and Jack & Jones all opening or purchasing new premises. This will inevitably strengthen demand for retail premises over the longer term.

From April 2015 the Affordable Warmth Scheme is the Department for Social Development's new scheme for addressing fuel poverty in the private sector. There is a range of energy efficiency measures available under the scheme, including insulation, ventilation and draught proofing, help with heating, windows, and solid wall. Private householders, both owners and tenants, may be eligible for help under the scheme if they have a total gross annual household income of less than £20,000.

## 2.8 Beyond 2020

The Fair Head Tidal Array project is still on track to commence work on a 10 megawatt (MW) demonstration project in 2017 and if it proves successful Phase 2, entailing a 100MW array, generating energy for up to 70,000 homes, will follow. Adjacent to this project is another 100MW project being taken forward by Tidal Ventures Ltd, for which preparation of a planning application is currently under way.

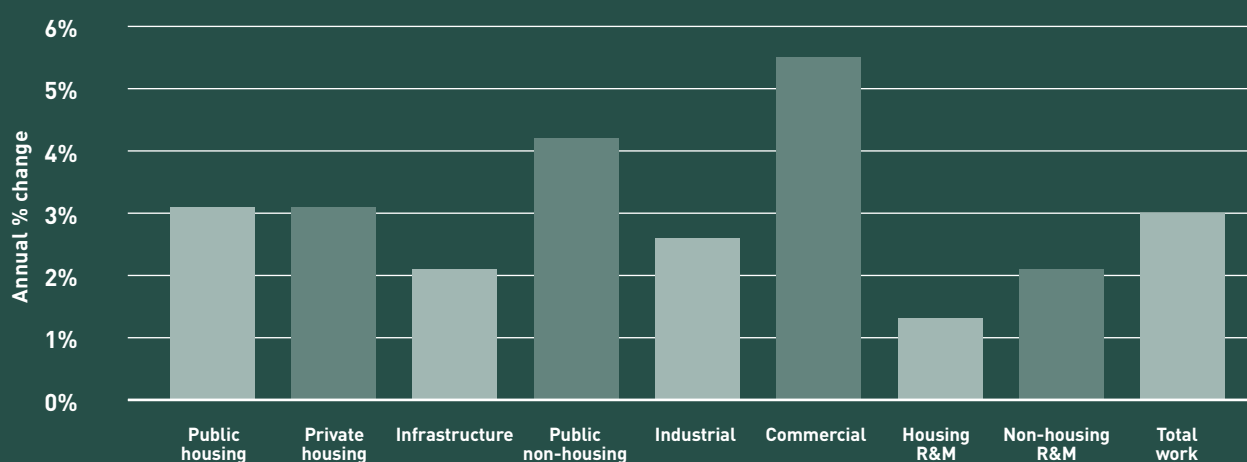
Further work is likely on Northern Ireland's transport infrastructure and with continued recovery in the Republic of Ireland's economy, the joint proposal to upgrade the A5 could be revived in the long term. Latest forecasts from DKM Economic Consultants for the Republic of Ireland economy are for 4% GDP growth a year in the three years to 2018, twice the Northern Ireland rate, and 10% a year on average for construction output. This suggests increasing opportunities for Northern Ireland firms to work south of the border in the medium to long term.

## CONSTRUCTION OUTPUT – NORTHERN IRELAND (£ MILLION, 2012 PRICES)

	Estimate	Forecast annual % change					Annual average
	2015	2016	2017	2018	2019	2020	2016-2020
Public housing	125	-8%	8%	10%	3%	4%	3.1%
Private housing	385	4%	3%	4%	2%	2%	3.1%
Infrastructure	461	0%	0%	7%	5%	-2%	2.1%
Public non-housing	387	12%	7%	2%	-3%	3%	4.2%
Industrial	42	12%	8%	1%	-3%	-4%	2.6%
Commercial	240	7%	7%	6%	6%	1%	5.5%
<b>Total new work</b>	<b>1,640</b>	<b>5%</b>	<b>4%</b>	<b>5%</b>	<b>2%</b>	<b>1%</b>	<b>3.4%</b>
Housing R&M	248	4%	1%	-2%	2%	2%	1.3%
Non-housing R&M	413	2%	2%	3%	2%	2%	2.1%
<b>Total R&amp;M</b>	<b>661</b>	<b>3%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>1.8%</b>
<b>Total work</b>	<b>2,301</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>1%</b>	<b>3.0%</b>

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

## ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH 2016-2020 – NORTHERN IRELAND



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

Private housing output is expected to expand at a moderate rate of 3.1% a year on average between 2016 and 2020.



## SECTION 3

# CONSTRUCTION EMPLOYMENT FORECASTS FOR NORTHERN IRELAND

### 3.1 Total construction employment forecasts by occupation

The table opposite presents actual construction employment (SICs 41-43, 71.1, and 74.9) in Northern Ireland for 2014, the estimated total employment across 28 occupational categories in 2015 and forecasts for the industry for 2016 and 2020. A full breakdown of occupational groups is provided in Section 5 of CSN Explained.

While 2015 represents the second consecutive good year for construction employment growth across the UK as a whole, it will be the first year of expansion in Northern Ireland since 2008, with a rise of nearly 2%. Employment could see a stronger increase in 2016, before growth subsides to more sustainable levels thereafter. Across the whole of the forecast period construction employment in Northern Ireland is projected to grow at an annual average rate of 1.5%, somewhat above the UK at 1.1%.

In numbers terms, construction employment in Northern Ireland was estimated at just over 60,000 in 2014 according to the Labour Force Survey (LFS). This is estimated to have grown to around 61,200 last year and then to rise to close to 65,900 by 2020. Most of the growth is expected to be in the first half of the forecast period with expansion flattening out in the second half. This will still leave total construction employment around 9% lower in 2020 than at its peak in 2008.

Expansion is expected across 21 of the 28 occupational categories, with particularly strong demand for construction management, professionals and some skilled trades, such as wood trades and bricklayers.



## TOTAL EMPLOYMENT BY OCCUPATION – NORTHERN IRELAND

	Actual 2014	Estimate 2015	Forecast	
			2016	2020
Senior, executive, and business process managers	3,600	3,680	3,730	3,580
Construction project managers	980	1,040	1,090	1,200
Other construction process managers	4,400	4,630	4,840	5,240
Non-construction professional, technical, IT and other office-based staff	6,200	6,580	6,800	6,770
Construction trades supervisors	940	940	990	1,100
Wood trades and interior fit-out	8,500	8,620	9,090	10,180
Bricklayers	2,620	2,550	2,690	3,050
Building envelope specialists	1,100	1,060	1,090	1,120
Painters and decorators	3,060	3,240	3,360	3,330
Plasterers	1,910	2,030	2,090	2,080
Roofers	1,000	1,070	1,130	1,250
Floorers	230	250	260	270
Glaziers	510	540	560	550
Specialist building operatives nec*	730	780	810	810
Scaffolders	260	250	260	270
Plant operatives	1,600	1,610	1,660	1,710
Plant mechanics/fitters	790	750	800	850
Steel erectors/structural fabrication	210	210	210	190
Labourers nec*	4,070	3,900	3,950	3,790
Electrical trades and installation	4,480	4,730	4,850	4,730
Plumbing and HVAC Trades	3,910	3,720	3,740	3,440
Logistics	510	510	540	600
Civil engineering operatives nec*	490	520	520	480
Non-construction operatives	210	210	220	230
Civil engineers	2,180	2,160	2,250	2,250
Other construction professionals and technical staff	2,740	2,850	3,080	3,590
Architects	1,780	1,770	1,870	2,060
Surveyors	1,050	1,020	1,060	1,160
<b>Total (SIC 41-43)</b>	<b>52,310</b>	<b>53,420</b>	<b>55,280</b>	<b>56,820</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>60,060</b>	<b>61,220</b>	<b>63,540</b>	<b>65,880</b>

Source: ONS, CSN, Experian. Ref: CSN Explained, Section 3, Notes 5 and 6  
\*Not elsewhere classified





### 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. Therefore, the ARR 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.

Northern Ireland's ARR, at 1,760, represents 2.8% of projected base 2016 employment, a good percentage point above the UK ratio (1.7%). This represents an increase on the ARR for 2015–19 reported last year of 1,490 and ratio of 2.4%.

The highest requirements – those over 5% of base 2016 employment – are in some of the managerial and professional occupations, such as construction process managers and architects, and in some of the skilled trades, such as bricklayers, reflecting the employment demand profile. While inflows from training are set to zero in the model, therefore the red traffic lights can only indicate where there might be skills shortages, recent research from the Federation of Master Builders in Northern Ireland tends to back up this scenario.

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.







## ANNUAL RECRUITMENT REQUIREMENT BY OCCUPATION – NORTHERN IRELAND

	2016-2020
Senior, executive, and business process managers	-
Construction project managers	110
Other construction process managers	130
Non-construction professional, technical, IT and other office-based staff	-
Construction trades supervisors	<50
Wood trades and interior fit-out	170
Bricklayers	270
Building envelope specialists	<50
Painters and decorators	110
Plasterers	130
Roofers	90
Floorers	<50
Glaziers	-
Specialist building operatives nec*	-
Scaffolders	-
Plant operatives	170
Plant mechanics/fitters	60
Steel erectors/structural fabrication	-
Labourers nec*	-
Electrical trades and installation	-
Plumbing and HVAC Trades	50
Logistics	<50
Civil engineering operatives nec*	<50
Civil engineers	<50
Other construction professionals and technical staff	180
Architects	190
Surveyors	-
<b>Total (SIC 41-43)</b>	<b>1,380</b>
<b>Total (SIC 41-43, 71.1, 74.9)</b>	<b>1,760</b>

Source: CSN, Experian. Ref: CSN Explained, Section 3, Notes 5 and 6  
\*Not elsewhere classified



## SECTION 4

# COMPARISONS ACROSS THE UK

# 2.5%

The overall UK forecast of an annual average rise in output of 2.5% over the 2016 to 2020 period is a little higher than the 2.1% seen in the last growth period for construction between 1995 and 2007. However, it disguises some quite different regional/devolved nation performances, from expected expansion of over 7% in Wales to just 0.5% in Scotland.

Wales and the South West are top of the growth rankings and have remained so for some time, but their strong performance is heavily predicated on nuclear new build projects at Hinkley Point and Wylfa. Greater London is also projected to have a strong infrastructure sector, with the work starting on the Northern Line extension and Thames Tideway and High Speed 2 in the pipeline. These projects should more than offset completion of the Crossrail and Thameslink schemes.

While growth in London and the East of England is expected to be robust, the forecast for the South East is relatively poor with a dearth of major projects in the pipeline, the £2bn Paramount Park scheme excepted. Therefore, the forecasts are less South East England centric than they sometimes can be.

Northern Ireland is likely to be one of the faster growing regions in the five years to 2020, although construction output will be coming back from a very low base and there are concerns that current political uncertainties could delay the start of public projects.

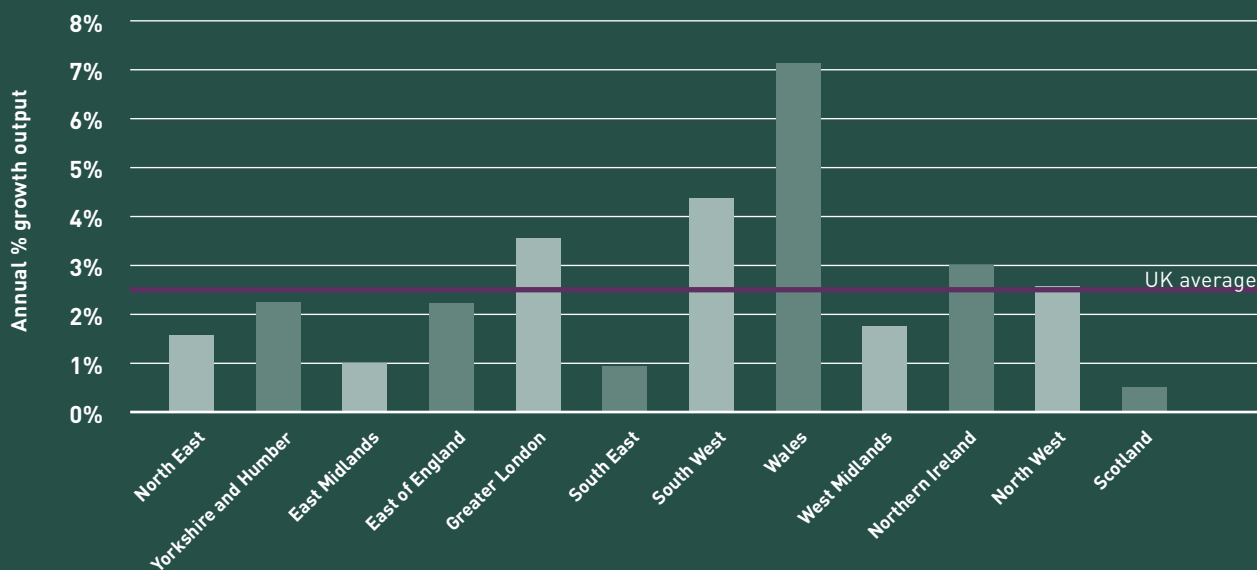
Scotland is seeing an exceptionally high level of investment in infrastructure at present, with output in 2014 around twice its previous 10 year average and due to increase even further in 2015. Thereafter projects, such as the current spate of motorway upgrades, begin to complete and activity in the sector is likely to fall sharply, bringing the overall Scottish construction growth rate down to only about half a per cent a year on average.

Employment growth across the regions and devolved nations tends to mirror that of output, but at a lower level to take account of expected productivity gains and with some minor adjustments depending on whether output growth is in high or low labour intensive sectors. Annual employment growth across the UK as a whole is projected to average 1.1% over the 2016 to 2020 period, with a high of 2.9% in Wales and a low of a 0.7% a year decline in Scotland. Despite the fact that nuclear new build is not particularly labour intensive, Wylfa is a very big project in a small market, therefore it will add nearly 2% to construction employment in Wales in 2020. The impact is smaller in the South West, which has a bigger construction market, but even there it will help to drive good employment growth of over 2% a year on average. In Scotland the converse is true and a sharp fall in infrastructure output, despite its relatively low labour input, is likely to lead to a drop in construction employment north of the border post 2016.

The pattern of ARR can look significantly different from the profile of output and employment, as some regions and devolved nations have historically strong net inflows and some suffer from large net outflows. The most extreme examples of this trend tend to be Greater London and Wales. London has a relatively low ARR despite strong projected employment growth (2% a year) as it acts as a natural magnet for construction workers throughout the UK and beyond, therefore its ARR ratio to base 2016 employment is low at 0.9%. At the other end of the scale Wales tends to suffer strong net outflows, in particular to the North West and South West of England and this, combined with a buoyant output and employment growth forecast, means its ARR ratio to base 2016 employment is a high 4.7%.

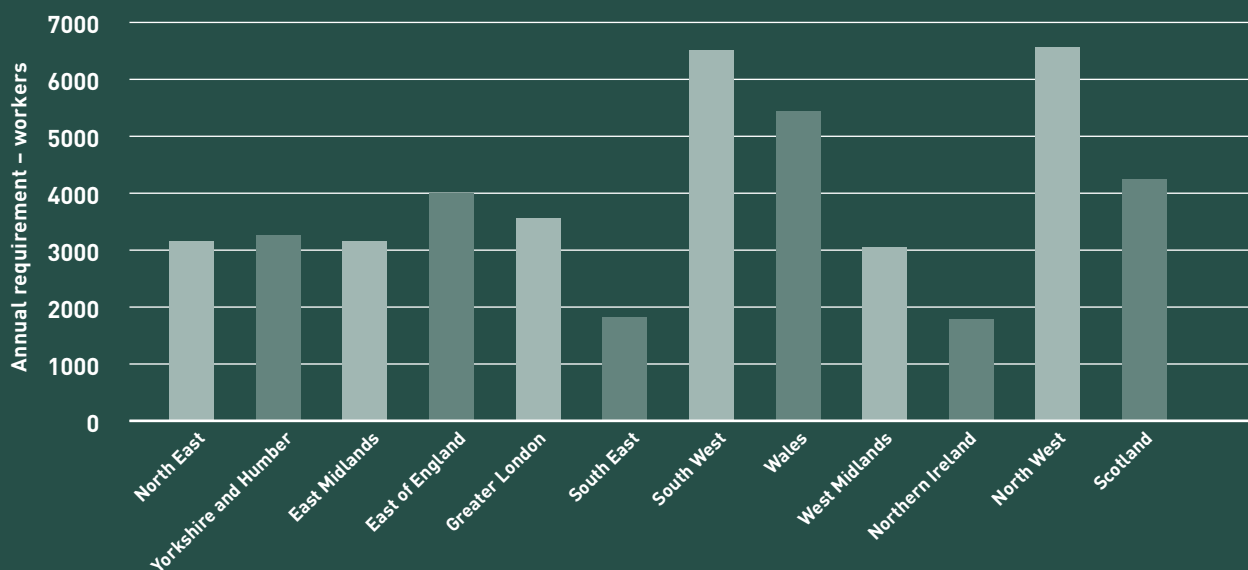


### ANNUAL AVERAGE CONSTRUCTION OUTPUT GROWTH BY REGION 2016-2020



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

### ANNUAL RECRUITMENT REQUIREMENT (ARR) BY REGION 2016-2020



Source: CSN, Experian

Employment is projected to rise to 65,880 in 2020, representing annual average growth of 1.5% over the five year period.



# CSN EXPLAINED

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

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**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.





## SECTION 1

# CSN METHODOLOGY

## Background

**The Construction Skills Network** has been evolving since its conception in 2005, acting as a vehicle for ConstructionSkills to collect and produce information on the future employment and training needs of the industry.

ConstructionSkills is the Sector Skills Council for Construction and produces robust labour market intelligence that 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 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 and 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 that 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 ARR 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:

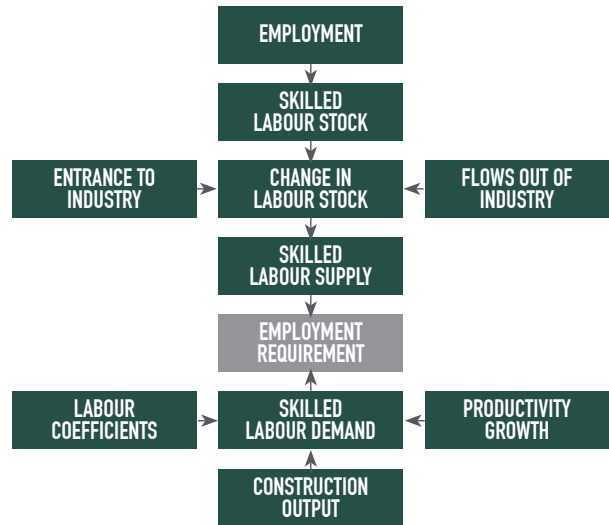
- Transfers to other industries
- International/domestic out migration
- Permanent retirements (including permanent sickness)
- Outflow to temporary sickness and home duties.

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.







## SECTION 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 that 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.



## SECTION 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, SIC 43 Specialised construction activities and SIC 71.1 Architectural and engineering activities and related technical consultancy.

The table summarises the SIC codes (2007) covered by ConstructionSkills:

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

\*The Building Futures Group has a peripheral interest in SIC 71.1.





### 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 SummitSkills across SIC 43.21 and SIC 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.





## SECTION 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.



## SECTION 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
Bookkeepers, 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
<b>Construction trades supervisors</b>	
Skilled metal, electrical and electronic trades supervisors	5250
Construction and building trades supervisors	5330
<b>Wood trades and interior fit-out</b>	
Carpenters and joiners	5315
Paper and wood machine operatives	8121
Furniture makers and other craft woodworkers	5442
Construction and building trades nec* (25%)	5319
<b>Bricklayers</b>	
Bricklayers and masons	5312
<b>Building envelope specialists</b>	
Construction and building trades nec* (50%)	5319
<b>Painters and decorators</b>	
Painters and decorators	5323
Construction and building trades nec* (5%)	5319
<b>Plasterers</b>	
Plasterers	5321
<b>Roofers</b>	
Roofers, roof tilers and slaters	5313
<b>Floorers</b>	
Floorers and wall tilers	5322

<b>Glaziers</b>	
Glaziers, window fabricators and fitters	5316
Construction and building trades nec* (5%)	5319
<b>Specialist building operatives not elsewhere classified (nec*)</b>	
Construction operatives nec* (100%)	8149
Construction and building trades nec* (5%)	5319
Industrial cleaning process occupations	9132
Other skilled trades nec*	5449
<b>Scaffolders</b>	
Scaffolders, staggers and riggers	8141
<b>Plant operatives</b>	
Crane drivers	8221
Plant and machine operatives nec*	8129
Fork-lift truck drivers	8222
Mobile machine drivers and operatives nec*	8229
<b>Plant mechanics/fitters</b>	
Metalworking 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
<b>Steel erectors/structural fabrication</b>	
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
<b>Labourers nec*</b>	
Elementary construction occupations (100%)	9120
<b>Electrical trades and installation</b>	
Electricians and electrical fitters	5241
Electrical and electronic trades nec*	5249
Telecommunications engineers	5242
<b>Plumbing and heating, ventilation, and air conditioning trades</b>	
Plumbers and heating and ventilating engineers	5314
Pipe fitters	5216
Construction and building trades nec* (5%)	5319
Air-conditioning and refrigeration engineers	5225

\*Not elsewhere classified





### 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
Metalworking 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

### Civil engineers

Civil engineers	2121
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### 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*





## SECTION 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 12 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 that 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  
Construction Skills Network, contact:  
Kirsty Woolsey  
Research Analyst  
Policy and Research  
0300 456 7807  
kirsty.woolsey@citb.co.uk**

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