

# INDUSTRY INSIGHTS

Construction Skills Network  
Greater London 2015-2019



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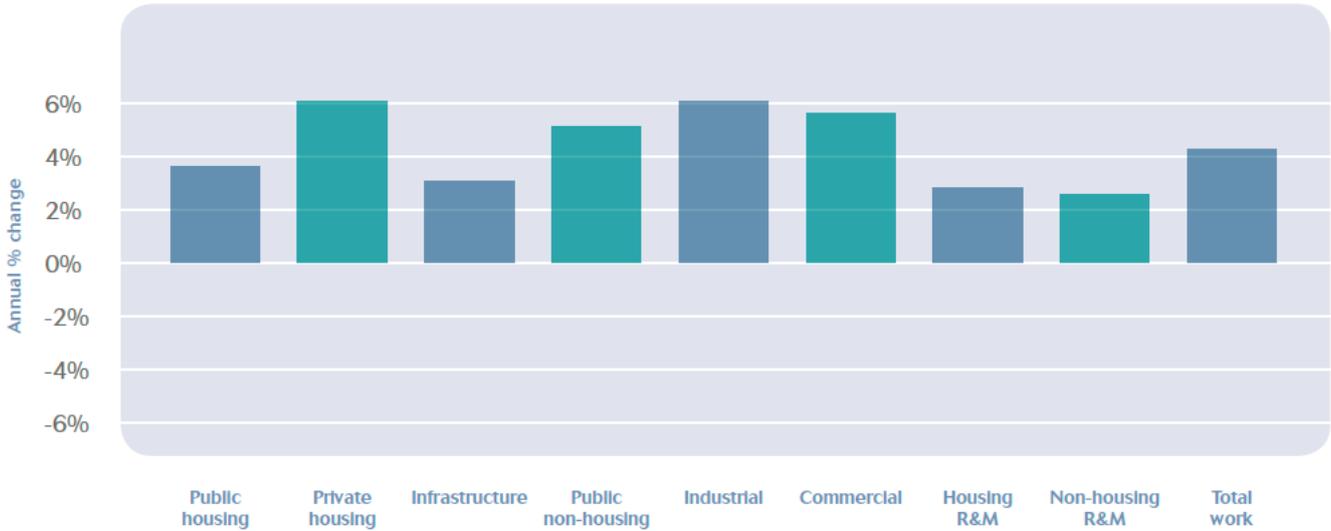
## CSN explained

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# 1 Summary – Greater London

The region is projected to see the second highest annual average construction output growth rate, at 4.2% between 2015 and 2019. Construction employment is forecast to increase by an average yearly rate of 2.4% to reach 444,230 by 2019. The capital has one of the lowest annual recruitment requirements (ARR), of 2,050, which is equivalent to just 0.5% of base 2015 employment, well below the UK ratio of 1.7%.

## Annual average construction output growth 2015-2019 – Greater London



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



## 1.1 Key findings

Greater London remained the only region and devolved nation in which construction activity was higher in 2013 than before the recession, despite a 3% fall in output in that year. Construction in the region is estimated to have returned to strong growth in 2014, with a rise in output of around 11% likely.

Looking forward, average annual increases of 6% are projected for the private housing sector between 2015 and 2019. Strong growth is likely in the short term before expected interest rate rises bring more muted expansion after that.

Yearly expansion of 5.7% on average is forecast for the commercial sector. Over the short term, a number of large projects have either started or are in the pipeline, such as the five-year redevelopment of the Selfridges department store on Oxford Street, Westfield Group's £1bn expansion of its mall in Shepherd's Bush, and the Brent Cross redevelopment project. By 2019, commercial output, at £7.65bn, is predicted to be a little above its pre-recessionary peak.

The public housing sector is likely to see average annual increases of 3.4% over the long term. This year a double-digit rise is expected as the London mayor's 2015–2018 £1.25bn housing programme begins in April. However, expansion is projected to slow down significantly before flattening out in 2019. Nevertheless, by the end of the forecast period, the sector is expected to have reached a new high of £2.78bn.

Construction in the capital will grow on average by 4.2% per year.

The best performing sector in Greater London will be industrial, with annual average growth of 6.4% per year.

The weakest yearly rise, of 2.9%, on average is projected for the infrastructure sector. Crossrail, Thameslink and the Victoria Station upgrade are all due to be completed by 2018. The eight-year Thames tideway tunnel project is due to begin in 2016 but it isn't large enough to compensate for the wind down of work on the three transport schemes. Nonetheless, significant growth is expected in 2019 as it is assumed work will start on the High Speed 2 project, with the early work based near London.

In 2013, the capital accounted for around 15.4% of UK construction employment and this is likely to increase to 16.2% in 2019. Over the next five years, construction employment is likely to rise by 2.4% per year on average in Greater London, which is higher than the overall UK rate of 1.5%.

Construction trades supervisors, bricklayers and logistics personnel are all expected to be in strong demand, with growth in these trades of around 5% a year between 2015 and 2019.

At 2,050 extra employees required per year over the forecast period, the region's ARR is just 0.5% of base 2015 employment, lower than the UK rate of 1.7%. Given the strong inflows that London naturally benefits from, only two occupational categories have an annual recruitment requirement (ARR) above 2.5% of base 2015 employment: floorers (4.7%) and glaziers (7.3%).

## 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 Greater London

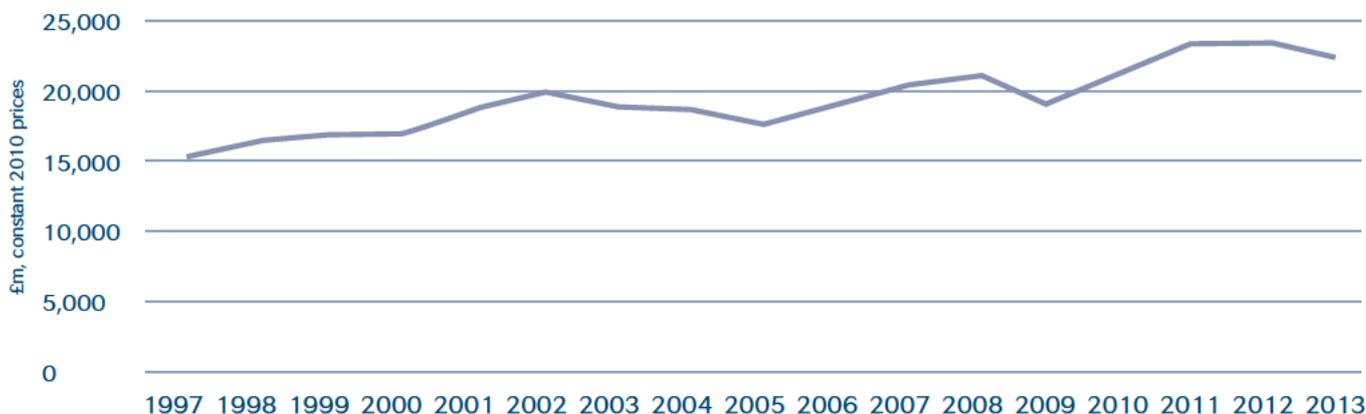
## 2.1 Construction output in Greater London – overview

In 2013, total construction output fell by 3% to £22.51bn. Whilst the new work sector experienced a marginal decline of 1% to £14.81bn, the repair and maintenance (R&M) sector registered a larger decrease of 6% to £7.7bn.

Of the new work sectors, only the public (£1.72bn) and private housing (£3.15bn) sectors recorded

growth, of 59% and 10% respectively. The former was helped by a huge rise in orders in 2013 which fed through into output, whilst the latter benefited from the introduction of the 'Help to Buy' scheme in April 2013. The infrastructure sector saw a decline of 13% to £3.06bn, although activity still remains at a very high level. The public non-housing sector experienced a decrease of 9% to £1.47bn as it continued to suffer from a lack of sizeable projects.

### Construction output 1997-2013 Greater London



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

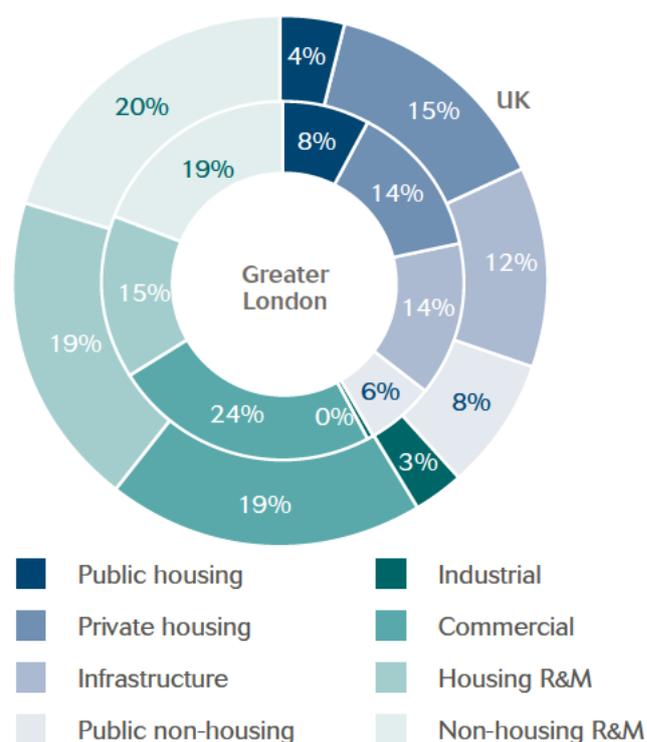
## 2.2 Industry structure

The diagram Construction industry structure 2013 – UK vs. Greater London illustrates the sector breakdown of construction in Greater London compared with the rest of the UK. Effectively, the percentages for each sector illustrate the proportion of total output that they account for.

In 2013, Greater London's new work sector at 66%, accounted for approximately two-thirds of total construction output, higher than the national share of 61%.

The structure of the London construction market shows some substantial differences compared with the UK as a whole. At 24% of total construction output, the share for the commercial sector in the capital is much bigger than the UK share (19%). The region's public housing sector is also larger than the national average (8% vs. 4%). By contrast, both the housing R&M (15% vs. 19%) and industrial (0.4% vs. 3%) sectors were significantly smaller than the UK average.

### Construction industry structure 2013 – UK vs Greater London



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 for which demand is likely to be strongest.

## 2.4 Economic structure

In 2013, gross value added (GVA) in the capital went up for the fourth year running, by 3.3% to £318.9bn at 2010 prices. The region accounted for 23.2% of the UK's GVA in 2013.

Professional and other private services was the largest sector, accounting for 30.1% of the region's GVA in 2013, whilst the finance and insurance sector took the next biggest share, at 18.9%. The public services and

information and communication sectors were ranked third and fourth respectively, while wholesale and retail was the fifth largest market. Of the top five sectors, finance and insurance was the only one to experience a fall in output, of -1.7%.

Greater London has a higher than average exposure to the services sector, while other sectors such as manufacturing and construction are under-represented compared with the UK as a whole.

### Economic structure – Greater London (£ billion, 2010 prices)

| Selected sectors                        | Actual | Forecast                    |      |      |      |      |      |
|---|--------|-----------------------------|------|------|------|------|------|
|   |        | Annual % change, real terms |      |      |      |      |      |
|   | 2013   | 2014                        | 2015 | 2016 | 2017 | 2018 | 2019 |
| Professional and other private services | 96.1   | 6.9                         | 4.2  | 3.7  | 3.8  | 3.5  | 3.2  |
| Finance and insurance                   | 60.4   | -1.1                        | 3.6  | 4.1  | 4.2  | 4.0  | 3.7  |
| Public services                         | 44.0   | 1.4                         | 0.0  | -0.3 | -0.4 | 0.2  | 1.1  |
| Information and communication           | 35.3   | 2.7                         | 4.1  | 3.7  | 3.9  | 3.3  | 2.9  |
| Wholesale and retail                    | 26.5   | 7.2                         | 3.4  | 2.6  | 2.6  | 2.6  | 2.5  |
| Total Gross Value Added (GVA)           | 318.9  | 3.7                         | 3.3  | 3.0  | 3.1  | 2.9  | 2.8  |

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, GVA is projected to grow at an annual average rate of 3%, higher than the national average of 2.4%.

Of the top five sectors, finance and insurance GVA is expected to see the strongest average annual expansion of 3.9%, while the biggest sector, professional and other private services, is projected to experience annual average increases of around 3.7%. The weakest of the large sectors is likely to be public services, which is set to grow a lacklustre 0.1% per annum.

Real household disposable income for Greater London residents is expected to rise by an annual average of 2.5% over the forecast period, higher than the UK rate of 2.2%, while yearly increases in household spending are also projected to be higher (3% vs. 2.4%).

The capital's unemployment rate is likely to have seen a big fall last year due to strong job creation; however, employment levels are predicted to be fairly static.

In 2013, the region's working age population was around 5.63m, accounting for approximately 14% of the UK total. Although the working age population as a percentage of total population is expected to grow over the short term, in the longer term it will be stable.

## 2.6 New construction orders – overview

After falling for two consecutive years, in 2013 total new orders went up by 23% to £12.27bn. The greatest increase of 187% to £1.82bn was seen in the public housing sector – a new high – while the industrial sector experienced a rise of 122% to £220m. Private housing new orders also reached record levels by jumping 104% to £3.52bn. Public non-housing (£1.42bn) and commercial (£3.63bn) new orders grew by 32% and 25% respectively. Orders in the infrastructure sector were the only ones to register a fall, of 53% to £1.66bn.

### Economic indicators – Greater London (£ billion, 2010 prices – unless otherwise stated)

|  | Actual  | Forecast                    |       |       |      |       |      |
|--|---------|-----------------------------|-------|-------|------|-------|------|
|  |         | Annual % change, real terms |       |       |      |       |      |
|  | 2013    | 2014                        | 2015  | 2016  | 2017 | 2018  | 2019 |
| Real household disposable income                 | 166.5   | 2.4                         | 2.3   | 2.0   | 2.8  | 3.0   | 2.7  |
| Household spending                               | 140.1   | 4.3                         | 3.6   | 2.8   | 2.9  | 2.9   | 2.9  |
| Working age population<br>(000s and as % of all) | 5,633   | 67.2                        | 67.5  | 67.7  | 67.7 | 67.7  | 67.7 |
| House prices (£)                                 | 423,920 | 14.8                        | 10.0  | 8.3   | 5.1  | 4.7   | 4.8  |
| LFS unemployment (millions)                      | 0.37    | -11.15                      | -1.42 | -0.22 | 0.70 | -0.05 | 0.50 |

Source: ONS, DCLG, Experian

## New construction orders growth 1997-2013 – Greater London vs. GB



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

## 2.7 New construction orders – current situation

In the first half of 2014, total new work orders increased by 11% to £6.36bn compared with the corresponding period in the preceding year. Private housing orders recorded the largest increase, of 41% to £2.1bn, and the commercial sector saw its orders rise by 37% to £2.62bn. Public non-housing (£945m) and industrial (£141m) orders also went up, by 23% and 8% respectively. By contrast, infrastructure orders experienced the greatest decrease of -65% to £208m, while a fall of -58% to £338m was seen in public housing orders.

## 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.

Last year, construction output in the capital is estimated to have increased by 11% to £24.94bn in 2010 prices, with all sectors, except infrastructure, showing growth.

Total construction output is expected to rise by an annual average of 6.8% over the next two years. Growth is forecast to be stronger in the new work sector than in R&M (8.2% vs. 3.7%).

The greatest yearly increase, of 13.1% on average, is forecast for the private housing market over the short term. Although growth is likely to be at a double-digit rate in 2015 and 2016, expansion is likely to be more subdued than last year. Tougher lending criteria introduced as a result of the Mortgage Market Review (MMR), worsening affordability and interest rate rises predicted for the second half of 2015, are all expected to impact the market, although their negative effects could be, in part, mitigated by most buyers benefiting from the reduction in stamp duty that came into effect in early December 2014.

In terms of projects for the private housing sector, by the end of this year The Carlyle Group is expected to start work on a 1.4m square foot regeneration scheme on the Thames South Bank. The scheme will include a large residential element of 940,000 square feet. Another development due to begin on the South Bank is the £1bn Shell Centre project, a mixed-use scheme which will include around 900 flats.

## New work construction orders – Greater London (£ million, current prices)

|                       | Actual        | Annual % change |             |             |             |             |
|-----------------------|---------------|-----------------|-------------|-------------|-------------|-------------|
|                       |               | 2013            | 2009        | 2010        | 2011        | 2012        |
| Public housing        | 1824          | 9.9             | 22.9        | -32.2       | -1.6        | 187.2       |
| Private housing       | 3519          | -30.9           | 102.4       | 35.3        | -15.3       | 103.5       |
| Infrastructure        | 1656          | 39.1            | 43.9        | -12.9       | 26.3        | -53.3       |
| Public non-housing    | 1423          | -33.7           | -11.0       | -39.9       | -21.1       | 31.6        |
| Industrial            | 220           | -71.5           | 70.9        | 11.4        | -49.5       | 122.2       |
| Commercial            | 3632          | -52.7           | 19.5        | 6.5         | -16.7       | 25.2        |
| <b>Total new work</b> | <b>12,274</b> | <b>-31.6</b>    | <b>24.5</b> | <b>-7.6</b> | <b>-5.2</b> | <b>22.9</b> |

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

## Construction output – Greater London (£ million, 2011 prices)

|                    | Actual<br>2013 | Forecast annual % change |      |      | Annual<br>average<br>2015-2016 |
|--------------------|----------------|--------------------------|------|------|--------------------------------|
|                    |                | 2014                     | 2015 | 2016 |                                |
| Public housing     | 1,717          | 37%                      | 11%  | 4%   | 7.1%                           |
| Private housing    | 3,150          | 31%                      | 16%  | 10%  | 13.1%                          |
| Infrastructure     | 3,058          | -12%                     | -9%  | 7%   | -1.3%                          |
| Public non-housing | 1,470          | 4%                       | 8%   | 13%  | 10.6%                          |
| Industrial         | 110            | 46%                      | 10%  | 4%   | 7.1%                           |
| Commercial         | 5,300          | 9%                       | 10%  | 8%   | 8.8%                           |
| New work           | 14,806         | 12%                      | 8%   | 8%   | 8.2%                           |
| Housing R&M        | 3,410          | 10%                      | 4%   | 2%   | 3.3%                           |
| Non-housing R&M    | 4,290          | 5%                       | 4%   | 4%   | 4.1%                           |
| Total R&M          | 7,700          | 8%                       | 4%   | 3%   | 3.7%                           |
| Total new work     | 22,506         | 11%                      | 7%   | 7%   | 6.8%                           |

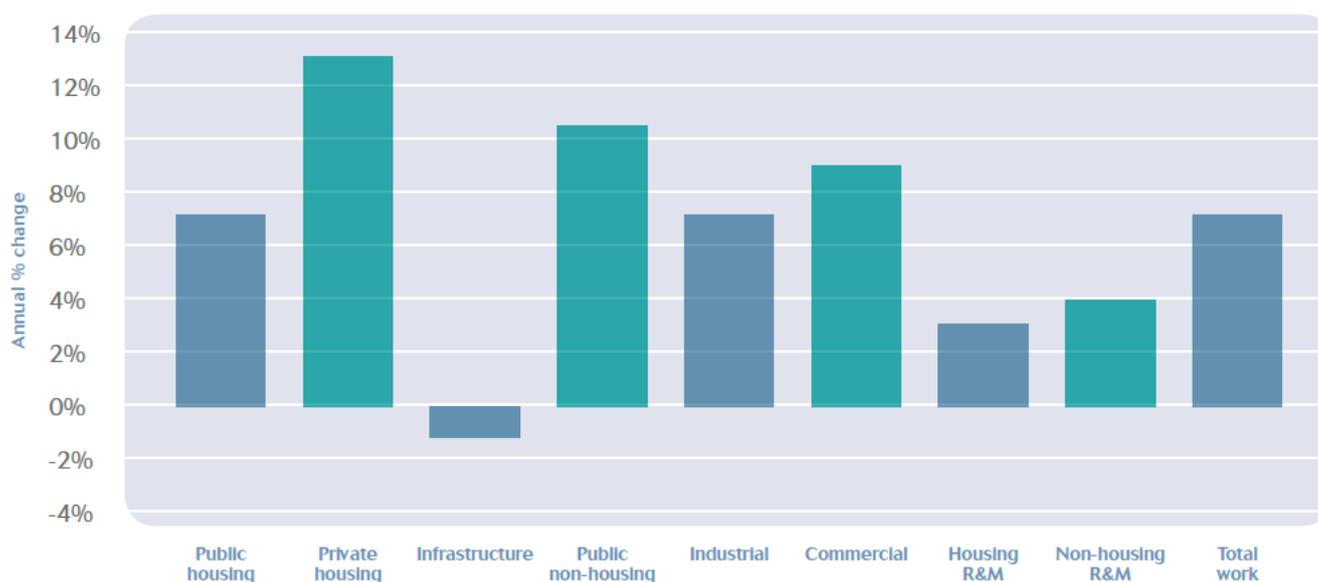
Source: Experian  
ref. CSN Explained, Section 3, Notes 1 and 2

The public non-housing sector is predicted to increase at an average annual rate of 10.6% between 2015 and 2016. It is estimated that the sector grew by 4% last year after three consecutive years of falls. Double-digit increases are projected in 2016 if the £1bn new education and cultural centre at University College London (UCL) is given the green light and work begins as planned. The likelihood of permission being granted remains in UCL's favour, as it was forced to scrap earlier plans to build an additional East London campus. If consent is obtained, work is expected to commence in early 2016, and last for five years.

Decent yearly increases of 8.8% on average are predicted for the commercial sector. A number of projects have recently started and are in the pipeline. Work has started on the five-year redevelopment of

the Selfridges department store on Oxford Street. The first phase of this £300m project will be managed by contractors Sir Robert McAlpine and Blue Sky Building and is estimated to be worth around £75m. Another large project is Westfield Group's £1bn expansion of its Shepherd's Bush shopping centre. Main work should start in 2015. Plans for Brent Cross by Hammerson and Standard Life Investments have also recently been approved and incorporate a new town centre as well as homes, parks and community facilities. The first phase will include new retail and leisure facilities along with an upgrade of Clitterhouse playing fields and a new cycle and pedestrian bridge over the North Circular road. The initial phase is worth £250m and work should start in early 2016.

## Annual average construction output growth 2015-2016 – Greater London



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

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

In the five years to 2019, Greater London’s construction industry is predicted to see the second highest annual average growth rate in the UK, of 4.2%. Whilst the R&M sector is forecast to increase by 2.7% per annum, the new work sector will see a higher annual average increase of 5%.

Of the different new work sectors, the greatest yearly expansion (of 6.4% on average) is likely to be in the industrial market. However, due to its small size, this is not significant in value terms.

A rise of 6% per annum on average is projected for the private housing sector, although most of the growth is expected in the earlier part of the forecast period. The reasons for the slowing expansion mentioned above are likely to continue into the second half of the forecast period.

Commercial construction output is projected to grow at an average annual rate of 5.7% between 2015 and 2019. At present, the largest long-term project currently in the pipeline with a significant retail element is the Vauxhall Nine Elms Battersea (VNEB) regeneration. Work has already started on projects within the regeneration area and construction is expected to continue well beyond 2019.

The public housing sector is predicted to see annual average increases of 3.4% over the long term. In 2015, a double digit rise is expected as the mayor’s 2015–2018 £1.25bn housing programme begins in April. However, growth is then projected to decline significantly before stalling in 2019. Nonetheless, by the end of the forecast period, the sector is likely to have reached a new high of £2.78bn.

The weakest yearly rise, of 2.9% on average, is projected for the infrastructure sector. Crossrail, Thameslink and the Victoria Station upgrade are all due to complete by 2018. The eight-year Thames Tideway Tunnel project is due to begin in 2016, which will see an interception, storage and transfer tunnel being built under a large section of the Thames. The tunnel will also be connected to the Lee Tunnel, enabling the transfer of sewage to Beckton sewage treatment works. Main tunnelling work is due to start in 2017; however, this project isn’t large enough to compensate for the wind down of work on the three transport schemes mentioned above. Nevertheless, very strong growth is expected in 2019 due to the expected start of the High Speed 2 project, as its early work is based around London.

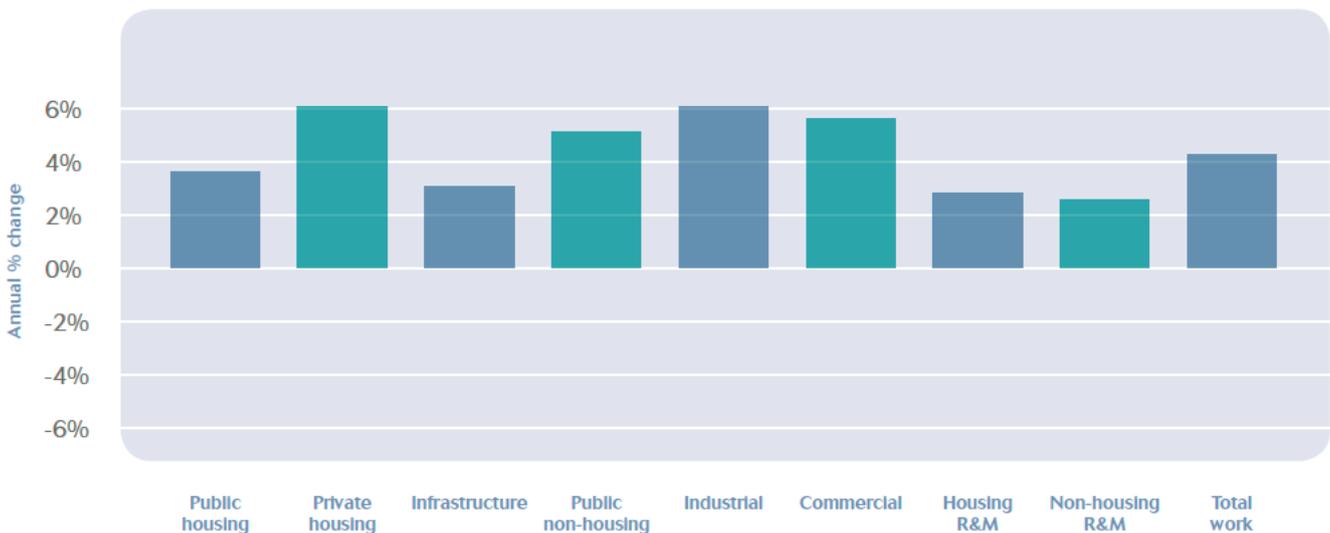
## 2.10 Beyond 2019

As mentioned above, work will continue on the Vauxhall Nine Elms Battersea (VNEB) regeneration area beyond 2019.

In the longer-term, Crossrail 2 is estimated to cost around £27.5bn in 2014/15 prices. The capital’s transport authorities have recently revealed a preferred route running from Cheshunt in Hertfordshire to Epsom in Surrey and passing through a number of central London stations such as Euston, Tottenham Court Road, Victoria and Clapham Junction. Work on the project is scheduled to start sometime in the first half of the 2020s and the line should open to the public by 2030.

There also remains the thorny issue of airport expansion and where it should take place. The likeliest option is at Heathrow. One of three proposals shortlisted by the Airports Commission is Heathrow Hub’s extension of the airport’s northern runway that would, according to their calculations, be cheaper, quicker to deliver and cause much less disruption for local residents than building a third runway.

## Annual average construction output growth 2015-2019 – Greater London



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

## Construction output – Greater London (£ million, 2011 prices)

|                    | Estimate<br>2014 | Forecast annual % change |      |      |      |      | Annual<br>average<br>2015-2019 |
|--------------------|------------------|--------------------------|------|------|------|------|--------------------------------|
|                    |                  | 2015                     | 2016 | 2017 | 2018 | 2019 |                                |
| Public housing     | 2,353            | 11%                      | 4%   | 2%   | 1%   | 0%   | 3.4%                           |
| Private housing    | 4,119            | 16%                      | 10%  | 5%   | 1%   | -1%  | 6.0%                           |
| Infrastructure     | 2,694            | -9%                      | 7%   | -10% | -13% | 51%  | 2.9%                           |
| Public non-housing | 1,530            | 8%                       | 13%  | 1%   | 3%   | 0%   | 5.0%                           |
| Industrial         | 161              | 10%                      | 4%   | 5%   | 8%   | 5%   | 6.4%                           |
| Commercial         | 5,796            | 10%                      | 8%   | 5%   | 3%   | 3%   | 5.7%                           |
| New work           | 16,653           | 8%                       | 8%   | 2%   | 0%   | 6%   | 5.0%                           |
| Housing R&M        | 3,765            | 4%                       | 2%   | 4%   | 2%   | 1%   | 2.7%                           |
| Non-housing R&M    | 4,524            | 4%                       | 4%   | 3%   | 1%   | 1%   | 2.6%                           |
| R&M                | 8,290            | 4%                       | 3%   | 4%   | 1%   | 1%   | 2.7%                           |
| Total new work     | 24,943           | 4%                       | 3%   | 4%   | 1%   | 1%   | 4.2%                           |

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

Employment in Greater London will grow on average by 2.4% per year, higher than the UK average of 1.5%.



## 3 Construction employment forecasts for Greater London

### 3.1 Total construction employment forecasts by occupation

The table presents actual construction employment (SICs 41–43, 71.1, and 74.9) in Greater London 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.

Greater London accounted for 15.4% of construction employment in 2013. This is projected to rise to 16.2% in 2019, when employment levels should be just below their 2008 peak. Overall construction employment is

likely to rise by 2.4% per year on average in the capital, higher than the overall UK rate of 1.5%.

Of all occupations, construction trades supervisors, bricklayers and logistics personnel are projected to see the highest annual average growth, of around 5% over the forecast period. Between 2015 and 2019, the majority of occupations are expected to see employment growth, but small declines are projected for plant mechanics/fitters and labourers nec.

In 2019, the largest construction trade occupation in the region is anticipated to be wood trades and interior fit out, accounting for around 11% of the total workforce.

#### Total employment by occupation – Greater London

|   | Actual 2013    | Estimate 2014  | Forecast 2015  | Forecast 2019  |
|---|----------------|----------------|----------------|----------------|
| Senior, executive, and business process managers                          | 27,030         | 27,770         | 28,630         | 30,760         |
| Construction project managers   | 12,930         | 13,030         | 13,210         | 13,630         |
| Other construction process managers                                       | 29,640         | 30,560         | 31,470         | 33,300         |
| Non-construction professional, technical, IT and other office-based staff | 59,590         | 60,470         | 61,810         | 65,530         |
| Construction trades supervisors   | 7,320          | 8,260          | 9,010          | 10,570         |
| Wood trades and interior fit-out  | 36,420         | 38,660         | 40,900         | 47,600         |
| Bricklayers   | 5,780          | 6,200          | 6,620          | 7,920          |
| Building envelope specialists   | 23,230         | 24,680         | 26,080         | 30,000         |
| Painters and decorators   | 18,530         | 19,040         | 19,670         | 21,280         |
| Plasterers  | 3,200          | 3,380          | 3,490          | 3,700          |
| Roofers   | 2,800          | 2,970          | 3,160          | 3,730          |
| Floorers  | 2,540          | 2,660          | 2,790          | 3,190          |
| Glaziers  | 4,450          | 4,540          | 4,680          | 5,110          |
| Specialist building operatives nec*                                       | 8,930          | 9,210          | 9,520          | 10,290         |
| Scaffolders   | 1,370          | 1,390          | 1,410          | 1,530          |
| Plant operatives  | 5,110          | 5,460          | 5,750          | 6,390          |
| Plant mechanics/fitters   | 2,720          | 2,650          | 2,610          | 2,500          |
| Steel erectors/structural fabrication                                     | 2,740          | 2,820          | 2,900          | 3,120          |
| Labourers nec*  | 14,750         | 14,910         | 15,010         | 14,350         |
| Electrical trades and installation  | 19,650         | 19,970         | 20,460         | 21,800         |
| Plumbing and HVAC Trades  | 16,930         | 17,230         | 17,810         | 19,790         |
| Logistics   | 2,800          | 3,000          | 3,200          | 3,810          |
| Civil engineering operatives nec*   | 1,860          | 1,900          | 1,930          | 2,070          |
| Non-construction operatives   | 5,900          | 6,380          | 6,810          | 8,070          |
| Civil engineers   | 8,810          | 9,010          | 9,240          | 9,760          |
| Other construction professionals and technical staff                      | 28,100         | 29,090         | 30,090         | 32,310         |
| Architects  | 14,650         | 15,280         | 15,920         | 17,490         |
| Surveyors   | 12,840         | 13,250         | 13,680         | 14,630         |
| <b>Total (SIC 41-43)</b>  | <b>316,220</b> | <b>327,140</b> | <b>338,930</b> | <b>370,040</b> |
| <b>Total (SIC 41-43, 71.1, 74.9)</b>                                      | <b>380,620</b> | <b>393,770</b> | <b>407,860</b> | <b>444,230</b> |

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 movement between industries, migration, sickness and retirement. However, due to the inconsistency and coverage of supply data, these flows do not include movements into the industry from training. Therefore, 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 Greater London has a green light, indicating that there is a low requirement for extra employees within the forecast period. At 2,050 extra employees required per year, this is just 0.5% of base 2015 employment. The corresponding ARR rate for the UK is higher, at 1.7%. London traditionally has a very

low ARR as it acts as a magnet for the construction workforce from other areas of the country and overseas.

In absolute terms, the largest requirement is for wood trades and interior fit-out (430), equivalent to 21% of the region's total ARR. However, as a proportion of base 2015 employment, glaziers are likely to be most in demand (7.3%).

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 used, will be able to work in the industry without the need for significant retraining.

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 – Greater London

|   | 2015 - 2019 |
|---|-------------|
| Senior, executive, and business process managers                          | 340         |
| Construction project managers   | -           |
| Other construction process managers                                       | -           |
| Non-construction professional, technical, IT and other office-based staff | -           |
| Construction trades supervisors   | -           |
| Wood trades and interior fit-out  | 430         |
| Bricklayers   | -           |
| Building envelope specialists   | 410         |
| Painters and decorators   | 210         |
| Plasterers  | 70          |
| Roofers   | 50          |
| Floorers  | 130         |
| Glaziers  | 340         |
| Specialist building operatives nec*                                       | 60          |
| Scaffolders   | -           |
| Plant operatives  | < 50        |
| Plant mechanics/fitters   | -           |
| Steel erectors/structural fabrication                                     | -           |
| Labourers nec*  | -           |
| Electrical trades and installation  | -           |
| Plumbing and HVAC Trades  | -           |
| Logistics   | -           |
| Civil engineering operatives nec*   | -           |
| Civil engineers   | -           |
| Civil engineers   | -           |
| Other construction professionals and technical staff                      | -           |
| Architects  | -           |
| Surveyors   | -           |
| Total (SIC 41-43)   | 2,050       |
| Total (SIC 41-43, 71.1, 74.9)   | 2,050       |

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 main construction works on Wylfa unlikely to start 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 a projected annual average output expansion of 4.2%. The area benefits from good growth in the commercial construction sector and very strong demand for public and private housing, despite recent indications that house prices in the capital are stabilising. Together, these three sectors accounted for 44% of London's construction output in 2013, well above the UK average (38%), thus 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, followed by a slowdown to more sustainable levels, the prospects for public housing are much more uncertain as the current Affordable Homes Programme (AHP) winds down to April 2015. The overall pot of funding available from central Government for 2015–2018 is much the same on an annualised basis as it was in 2011–2015 and there are concerns that many housing associations may find it problematic to increase their borrowing from private sources in the future.

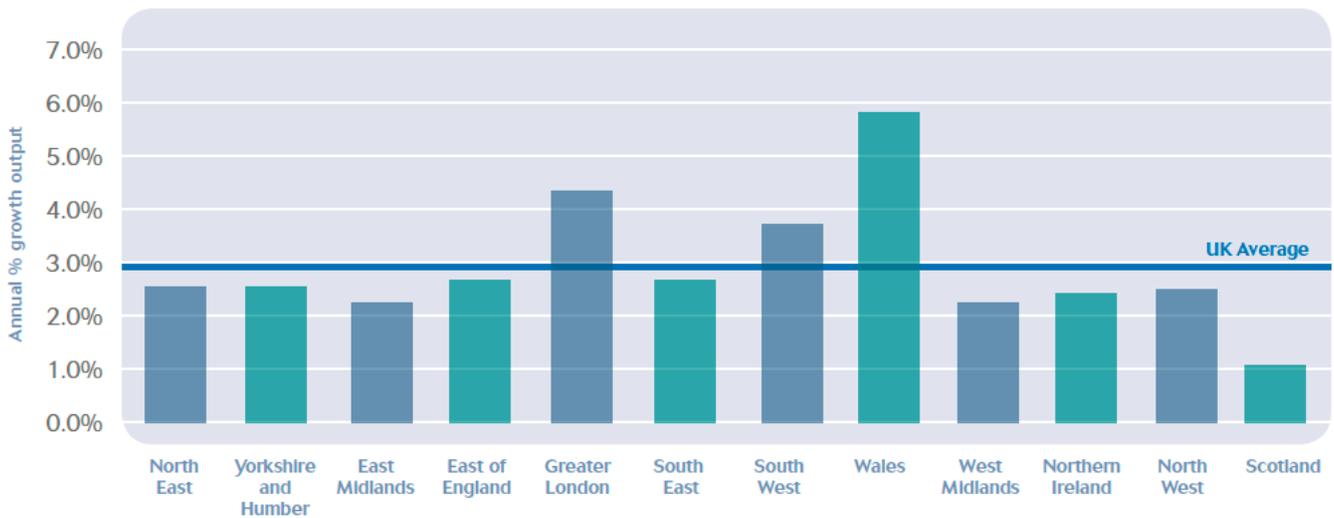
Outside of the South West, infrastructure growth is likely to be strongest in the North East and Wales, the former being driven by £400m of roads work in the Highways Agency's Area 14, which covers the region and the latter benefiting from Great Western Line electrification, road upgrades, energy works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

The strongest growth in commercial construction is expected to be in Yorkshire and the Humber (with an 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 that were mothballed during the 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 1.5% UK average. The exceptions are Greater London and Wales (2.4%) and Scotland (0.1%). For Greater London, workforce demand is mainly driven by growth in the sectors mentioned above, but even the infrastructure sector, which is already at a historic high in output terms, is expected to expand further over the next five years. Employment demand in Wales inevitably benefits from the start of main works on Wylfa, despite infrastructure being 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.

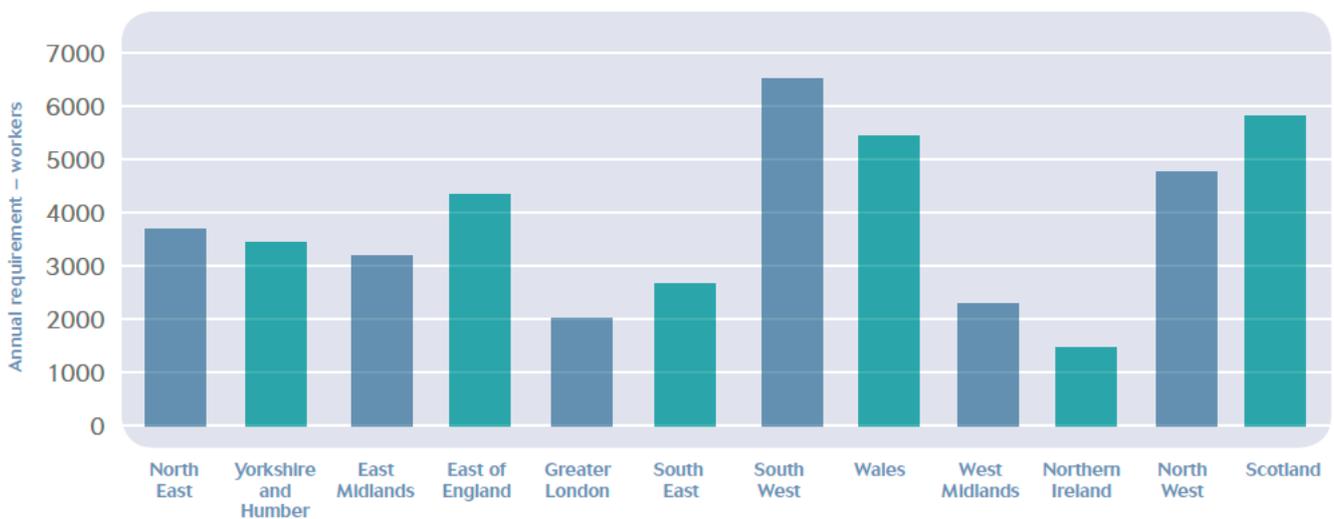
Despite London's strong employment demand, its annual recruitment requirement (ARR) only equates to around 0.5% of projected 2015 employment. This is because the region acts as a magnet for the construction workforce within the UK and beyond. In contrast, Wales' strong employment demand is supplemented by traditional employment outflows to other regions, especially to the North West and South West; it therefore has a much higher ARR ratio than elsewhere, 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



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## 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:

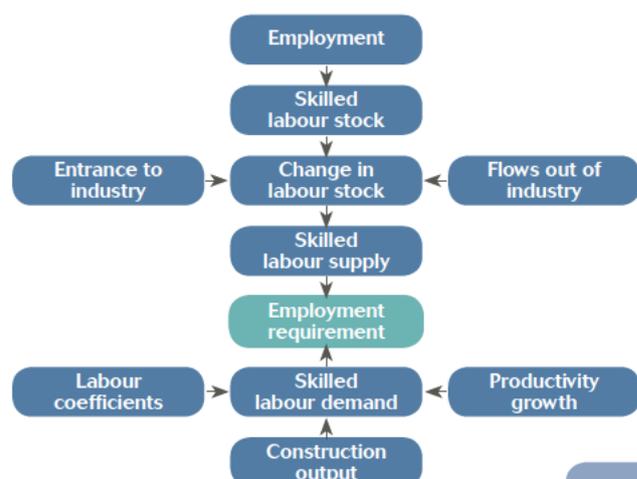
- Transfers to other industries
- International/domestic out migration
- Permanent retirements (including permanent sickness)
- Outflow to temporary sickness and home duties.

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>

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

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

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

## 5. Occupational Groups

### Occupational group

Description, SOC (2010) reference.

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

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

#### Construction project managers

|   |      |
|---|------|
| Construction project managers and related professionals | 2436 |
|---|------|

#### 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 |
|------------------------|------|

**Building envelope specialists**

|   |      |
|---|------|
| Construction and building trades nec* (50%) | 5319 |
|---|------|

**Painters and decorators**

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

**Plasterers**

|            |      |
|------------|------|
| Plasterers | 5321 |
|------------|------|

**Roofers**

|                                  |      |
|----------------------------------|------|
| Roofers, roof tilers and slaters | 5313 |
|----------------------------------|------|

**Floorers**

|                          |      |
|--------------------------|------|
| Floorers and wall tilers | 5322 |
|--------------------------|------|

**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 |
|-----------------------------------|------|

**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 |
|--|------|

**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  
Construction Skills Network, contact:  
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[citb.co.uk](http://citb.co.uk)



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