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CITB ANALYSIS

Construction skills gap analysis for the Cheshire & Warrington area

DRAFT

An analysis of the opportunities presented by the construction landscape in the Cheshire & Warrington area

September 2018

EXECUTIVE SUMMARY

The Cheshire & Warrington area can expect sustained spending on new construction projects of well over £1.1 billion per year for at least five years.

To meet this anticipated demand a total construction workforce of around 34.500 people is required in 2018 increasing to more than 37,000 in 2022. But with an aging workforce there are risks that the Cheshire & Warrington authorities and developers may not be able to build everything on the wish list.

Across the Cheshire & Warrington area, new housing accounts for 37% of anticipated spend on new projects in 2018; infrastructure for 33% and private commercial developments for 18%.

The Cheshire & Warrington area's opportunity

The local authorities' opportunities are to: support growing businesses; develop a more appropriately and better skilled, flexible workforce; drive higher level skills, match skills and the local economy and encourage job creation. This will, in turn, support the delivery of infrastructure that will enable further development and ensure that the area is prepared to exploit opportunities as they emerge and deliver the new housing that is needed.

Construction on its own makes up a huge part of the UK economy representing around 7% of GDP. But crucially it is also an enabler. It will create the new housing that is so desperately needed; will enhance the environment; will create better public spaces and facilities that we depend on; build the facilities for new technologies and manufacturing; and create new infrastructure that enables growth and prosperity. Construction opens up opportunities for major social and economic gains.

*"*Construction in Cheshire and Warrington has significant growth forecast over the coming years, which will result in the need for people to join the industry to build the projects in the pipeline. With well-paid and highly skilled job opportunities in a wide range of trades and professions, we should be encouraging young people to look at construction as a career of choice with excellent prospects. A skilled workforce will help the area's growth aspirations and leave a legacy for future generations. CITB is working with employers to inspire, attract and train this new talent for these valuable and rewarding careers."

Andrew Bridge, CITB Partnership Manager

High demand occupations

The top ten occupations for which there is greatest demand are:

- Non-construction professional, technical, IT & office-based
- Wood trades and interior fit-out
- Other construction process managers
- Electrical trades and installation
- Senior, executive, and business process managers
- Other construction professionals and technical staff
- Plumbing and HVAC Trades
- Labourers
- Painters and decorators
- Building envelope specialists

At risk occupations

The occupations at greatest risk of a shortfall in numbers available locally are:

- Civil engineering operatives nec*
- Painters and decorators
- Building envelope specialists
- Glaziers
- Specialist building operatives nec*
- Plasterers & dry liners
- Architects
- Logistics

Priority occupations

The report identifies occupations for which there is high demand AND a high risk of a shortfall.

- Painters and decorators
- Building envelope specialists
- Specialist building operatives nec*
- Plasterers & dry liners
- Senior, executive, and business process managers
- Bricklayers
- Wood trades and interior fit-out

Occupations in context – the challenge

This report sets out a challenge to the Cheshire & Warrington local authorities, colleges construction employers and other stakeholders – namely to attract, train, recruit and maintain a high skilled construction workforce that meets anticipated demand.

Construction offers a range of well-paid high skilled jobs for which there is demonstrable demand. The opportunity is to exploit the opportunities to achieve social and economic gains by encouraging people from the area into these roles, providing the associated support and career pathways.

This challenge is set against the backdrop of: concerns about the future availability of skilled workers and demand from other UK regions and major infrastructure projects.

The Professions

There is high demand for several professional roles, jobs which require a significant length of training before candidates become qualified. Architects, surveyors and civil engineers require higher level qualifications plus professional accreditation, so the effect of action now will only be felt in five to ten years' time. These are jobs in demand the world over. However, these roles do not need to be permanently on-site so it is likely that some demand may be met by those working outside the region.

There are also opportunities to modernise construction and for Cheshire & Warrington to start to encourage and adopt new technologies and new practices like off-site and modular construction to help meet demand.

Training and education

Nearly 80 training providers have delivered construction related training (including apprenticeships) within the area over the last four years. A core network of ten have delivered around 90% of that.

The Cheshire and Warrington area accounts for 11% of construction related training across the North West region. Provision of training provision reduced between 2012/13 and 2015/16, with new starters decreasing by 16%. However, apprenticeship starts have increased by 29% over the same period. In comparison, across the North West apprenticeships starts have increased by 32%.

Recommendations

The report proposes recommendations that include:

1. Review and develop, as appropriate, any existing construction skills strategy. Establish a Cheshire & Warrington area construction skills strategy and action plan which recognises collective, and potentially unique, actions and solutions that may be required in and across each of the three local authority areas.
2. Develop and strengthen relevant collaborative partnerships. With a view to building collaborative holistic action plans and encouraging local stakeholders to work together and input to, and take ownership of, the construction skills actions.
3. Develop skills and training pathways for both current and future skills needs. Ensure training is appropriate for local needs and businesses. Develop Cheshire & Warrington area construction training so that it is appropriate for the needs of the construction industry and local circumstances, addressing risks of supply shortfalls.
4. Outreach. Build a more positive image of construction locally with young people. Increase recruitment through new entrance points, career changes and reskilling. Emphasise that construction offers high value rewarding careers for all.
5. Use procurement as a lever to enable positive action. Develop smarter approaches to procurement to encourage wider contract award inclusivity of small and medium sized employers. With those tendering for construction and infrastructure contracts or those funding developments to be mandated to include provision for recruitment, training, apprenticeships and outreach.

GoConstruct is one of the construction industry's initiatives; supported by CITB, aimed at helping to attract more young people into construction careers by improving understanding of the careers and rewards available.

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1. INTRODUCTION

1.1. SCOPE

This report represents the first step in developing and maintaining an evidence base, to be utilised by the local authorities of: Warrington, Cheshire East and Cheshire West and Chester as well as those interested in the growth, prosperity and built environment in the area to inform decision making that will help determine the employment and skills opportunities emerging in the construction industry.

Construction is a significant part of the economy and is a major employer. But it is also an enabler of economic growth and job creation and has a significant impact on enhancing the built environment, in creating the facilities required of a modern economy and addresses significant social issues, such as a shortage of housing.

It is also an enabler of other sectors' success by building the facilities required for commercial and industrial advances as well as the infrastructure that is, in turn, an enabler of growth. It is, therefore, essential for the Cheshire and Warrington area to invest in supporting the actions proposed in this report as well as referring to the wider evidence base available and involving stakeholders in the development of the associated plans.

The analysis starts to determine priorities for interventions to ensure local opportunities are maximised and that the area has the right future skills and training pathways in place to deliver demand led solutions.

The area is also bordered by a number of significant metropolitan areas that may have a net effect of drawing skilled workers to them from the Cheshire & Warrington area.

1.2. THE COMMISSION

This work was produced by CITB on behalf of the local authorities. Its purpose is to describe the anticipated demand for construction within the area and contrast that with the provision of construction workers and training to offer a picture based on the best data available on the opportunities for enhancing the construction environment so as to support a construction skills strategy for the area that enhances the skills available, the training in place to support those skills and ultimately enhances productivity and makes a positive contribution to developing the built environment and social and economic circumstances.

Figure 1: Cheshire & Warrington and surrounding areas shows the Cheshire & Warrington area that has been assessed, that includes the local authority areas of:

- Cheshire East
- Cheshire West and Chester
- Warrington

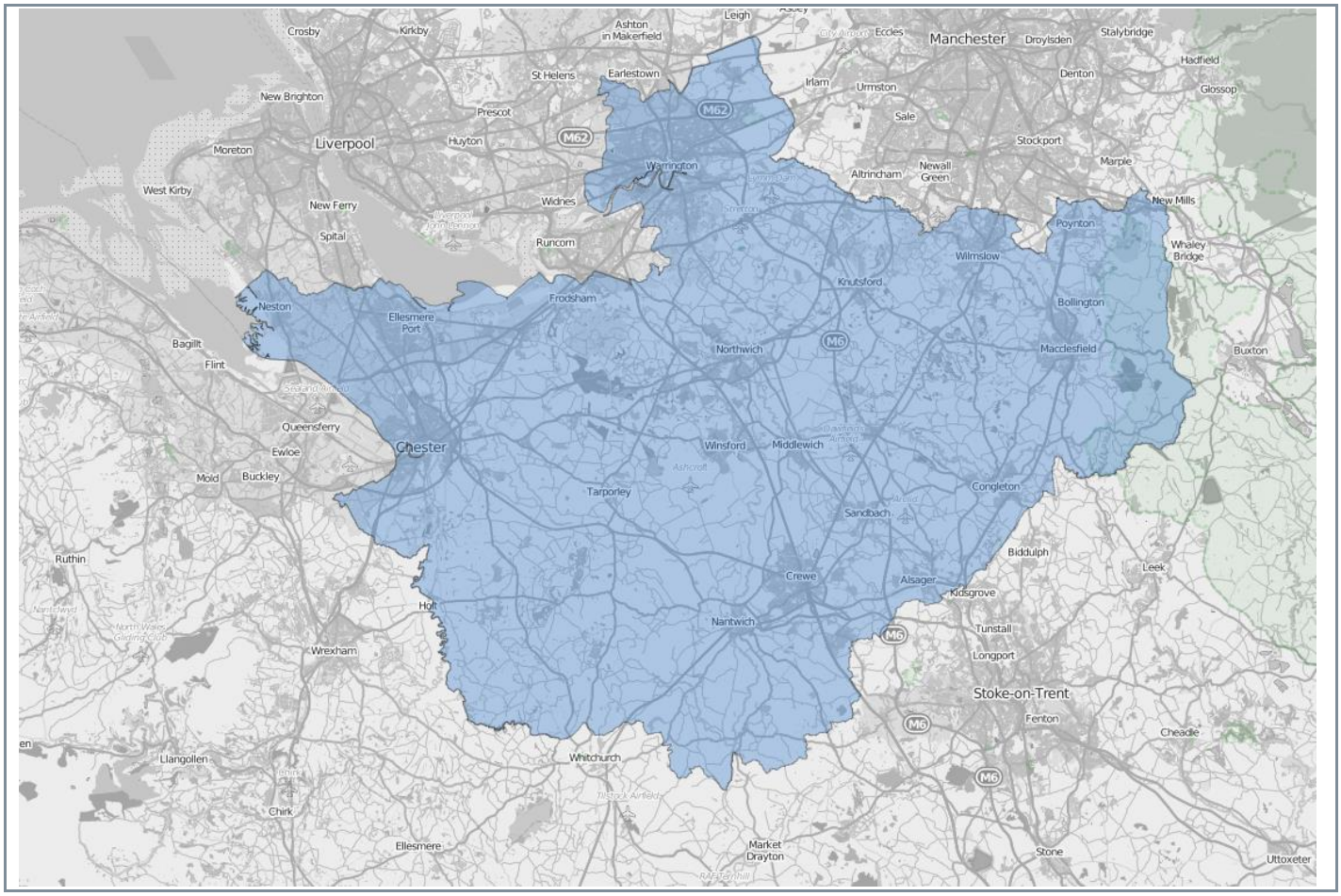


Figure 1: Cheshire & Warrington and surrounding areas

2. LABOUR DEMAND IN THE CHESHIRE & WARRINGTON AREA

The following sections provide an estimate of the labour demand predicted by our Labour Forecasting Tool that construction investment will create across the Area over the period 2018-2022. The tool and method of analysis are described in Appendix A.

SUMMARY OF DEMAND

- Our estimate of the labour demand in the Cheshire & Warrington area is around 34,500 people in 2018. The projected growth between 2018-2022 suggests that the labour demand in 2022 will be around 37,300 people.
- Around 59% of the workforce is employed in skilled trades & operatives, the other 41% are in managerial, professional & office based staff.
- During 2018 the most labour-intensive occupation group is “Non-construction professional, technical, IT, and other office–based staff (excl. managers)” with an annual demand of 4,650 people.
- The skilled trade & operative occupations in greatest demand are:
    - Wood trades and interior fit-out with a requirement for 3,300 people;
    - Electrical trades and installation follow with 2,450 people.
    - Plumbing and heating, ventilation, and air conditioning trades rank third, with a demand of 2,050 people

2.1. PIPELINE OF KNOWN PROJECTS

2.1.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database[1] and the National Infrastructure and Construction Pipeline (NICP)[2]. These comprise what are referred to as the known projects.

An initial review of the Glenigan database identified 452 projects in the Cheshire & Warrington area. Of the Glenigan projects, 54 were removed due to missing dates. Also excluded were two projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate. Six were removed due to them being included in the NICP. A full set of the projects which were omitted from the analysis is provided in Appendix C. The spend in projects which were removed because of missing dates is around 4% of the total pipeline value. It is possible that this work will take place at some point in the future but as dates are unknown it is most likely that this will be later in the forecast period. Since dates are not known it is not possible to pinpoint when the labour will be required. However, an assessment of the labour demand from potential additional projects is included in the estimates of other work as outlined in Appendix A.

The Mean Value Theorem was applied to the remainder of the pipeline to identify the significant projects. The process identified 88 significant projects accounting for 79% of the total construction spend in the area. This allowed a detailed analysis of a large proportion of all the projects and a comprehensive consideration of the project types to which they were assigned.

Appendix D provides a full breakdown of the Glenigan significant projects and their construction values. The peak year for the Glenigan spend profile is 2018. The location of the significant projects within Cheshire & Warrington can be seen in Figure 2. The values of the projects are proportional to the sizes of the coloured dots.

[1] The Glenigan database allows contractors to identify leads and to carry out construction market analysis. It is updated every quarter to provide details of planning applications from local authorities supplemented with additional project-specific data. For the purposes of this analysis with have used the 2017Q4 cut of data.

[2] The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compile annually a pipeline of UK infrastructure and construction projects and the associated annual public and private investment. For this report we have used the Autumn 2017 NICP which includes details of around 700 projects valued at some £463bn.

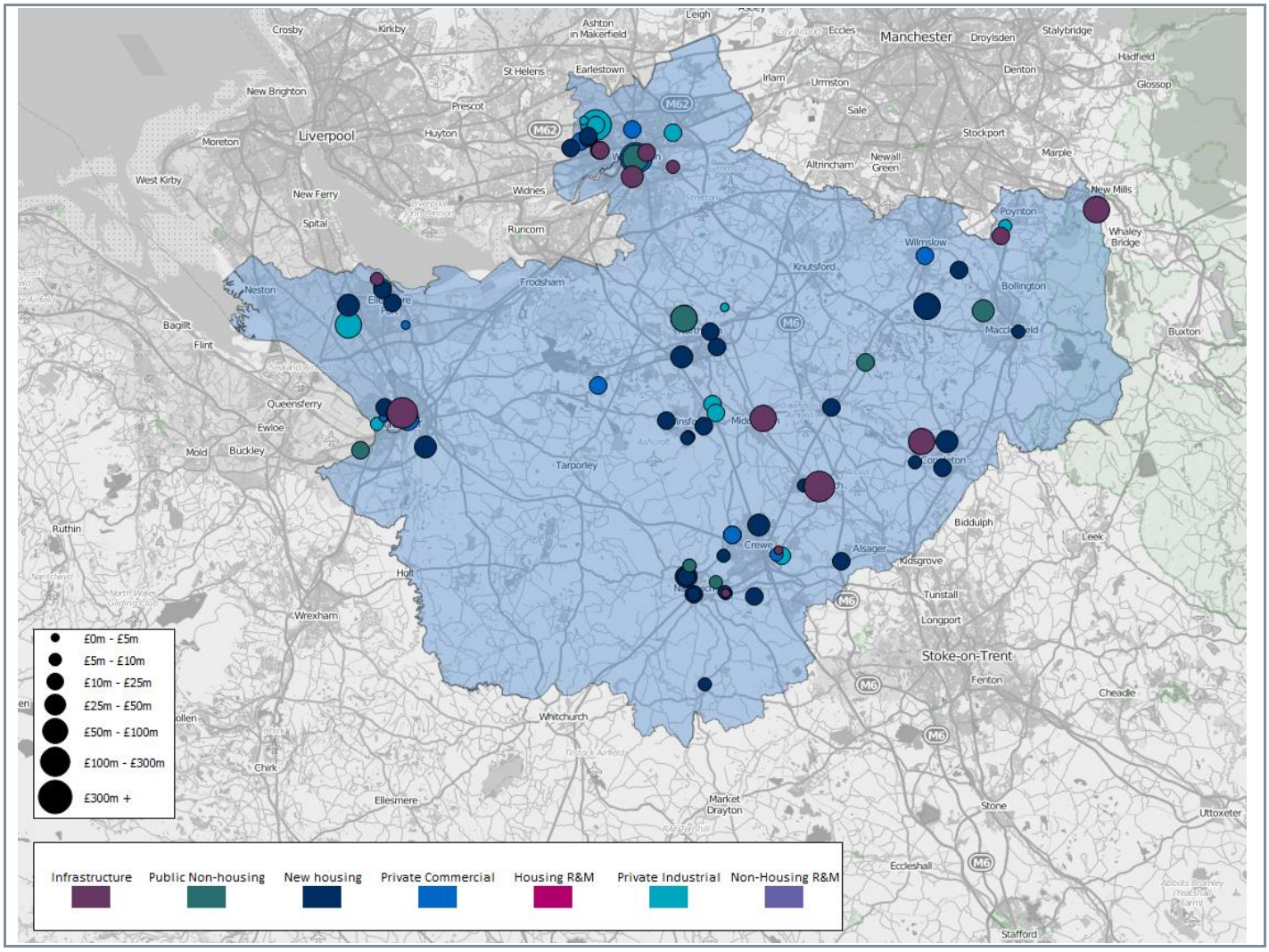


Figure 2: Location of significant Glenigan projects included in the analysis

2.1.2. Glenigan & NICP spend analysis

Implementing the methodology outlined in Appendix A leads to the following findings for the peak year for known projects of 2018. The peak year is used because the tail off in the known projects is more likely to be due to a lack of future planning rather than an actual tail off in workload.

Table 1 shows the distribution by project type of new build spend for the total pipeline of known projects.

Table 1: New-build construction spend by project type in 2018 (total known projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
New housing	429	37%
Infrastructure	378	33%
Private commercial	214	18%
Private industrial	104	9%
Public non-housing	38	3%
Total	1,163	100%

Table 2 shows the infrastructure construction spend from the known projects in 2018 by infrastructure sub-type.

Table 2: Construction spend per infrastructure sub-type in 2018 (total known projects)

Project type	Construction spend in 2018 (2017 values - £m)	% of total
Transport	174	46%
Energy	112	30%
Water	71	19%
Flooding	13	3%
General infrastructure	8	2%
Total	378	100%

2.2. ESTIMATE OF FUTURE TOTAL LABOUR DEMAND

The known project pipeline may not include smaller projects or repair and maintenance work. Figure 3 shows the outcomes of the analysis of future labour demand with the forecast regional employment growth rate applied. The solid purple area shows the labour demand arising from the new build Glenigan and NICP projects. This is projected forward from the peak as shown in green. The R&M (including any in Glenigan or the NICP) is also shown along with the likely total labour demand arising from estimates of other work. The method for calculating these is provided in Appendix A. The total construction labour demand is around 34.500 people in 2018. The projected growth between 2018 and 2022 suggest that the labour demand in 2022 will be around 37,300.

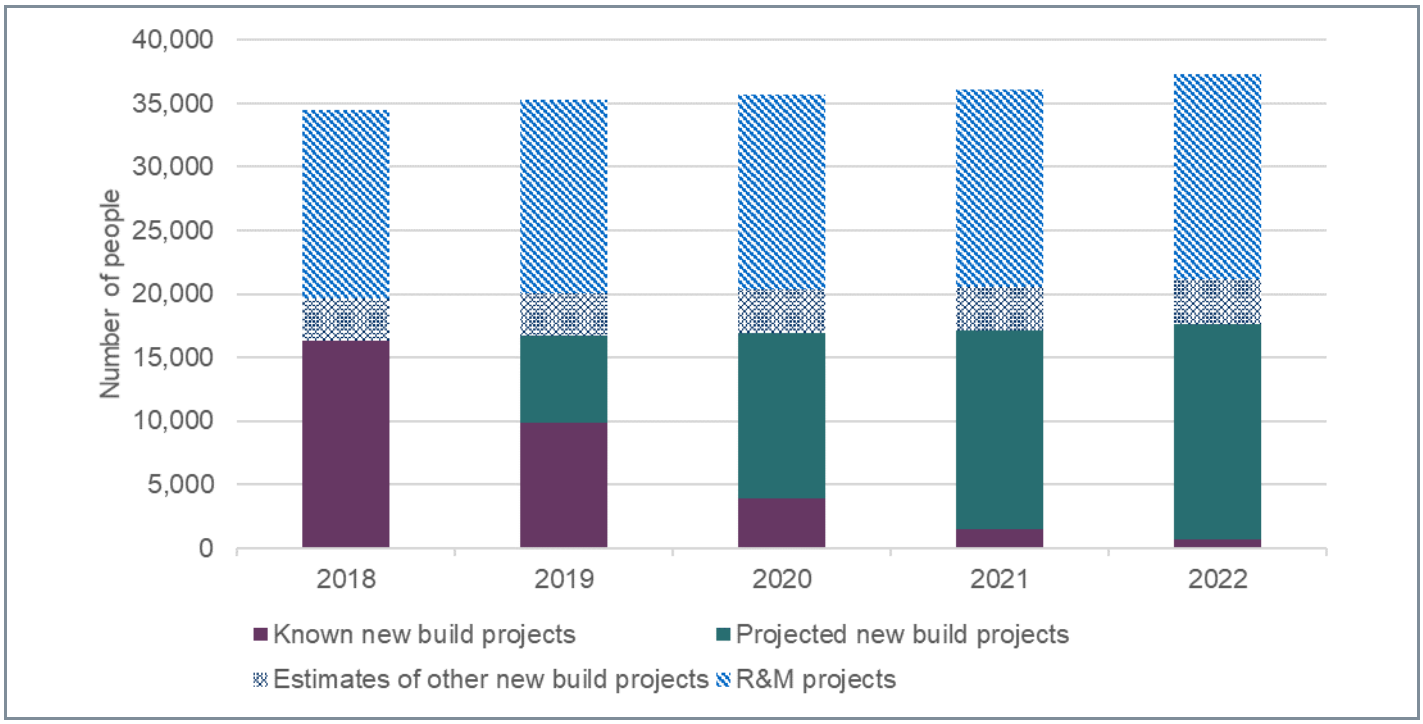


Figure 3: Total construction labour demand including estimates for both R&M and estimates of other work

2.2.1. Breakdown of labour demand by occupation

Figure 4 presents the breakdown of labour for skilled trades & operatives and managerial, professional & office based staff. Around 59% of the workforce are in skilled trades & operative occupations.

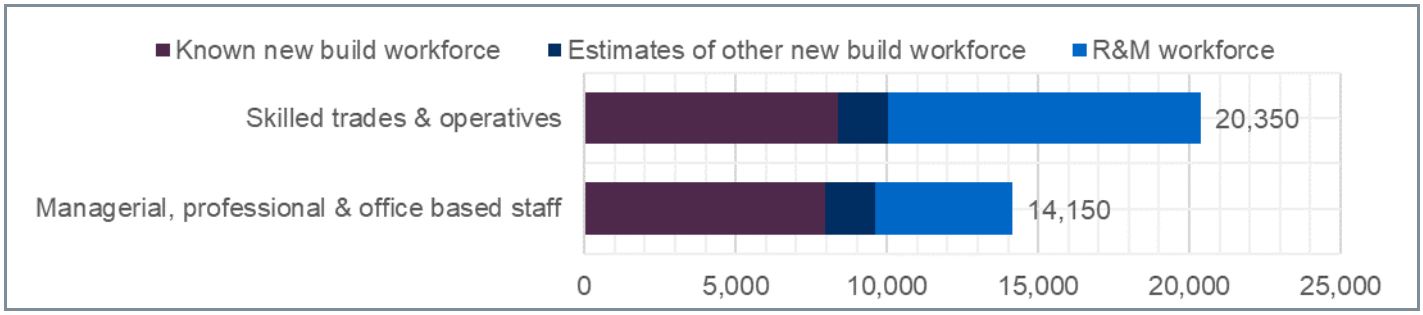


Figure 4: Total construction labour demand for 2018 by broad occupational group

For the peak year in Glenigan of 2018, Figure 5 shows the detailed breakdown for the 20 skilled trade & operative occupational groups for the pipeline of known projects, the estimates of other new-build work and the R&M work. These occupations will be predominately based at or near the location of the work.

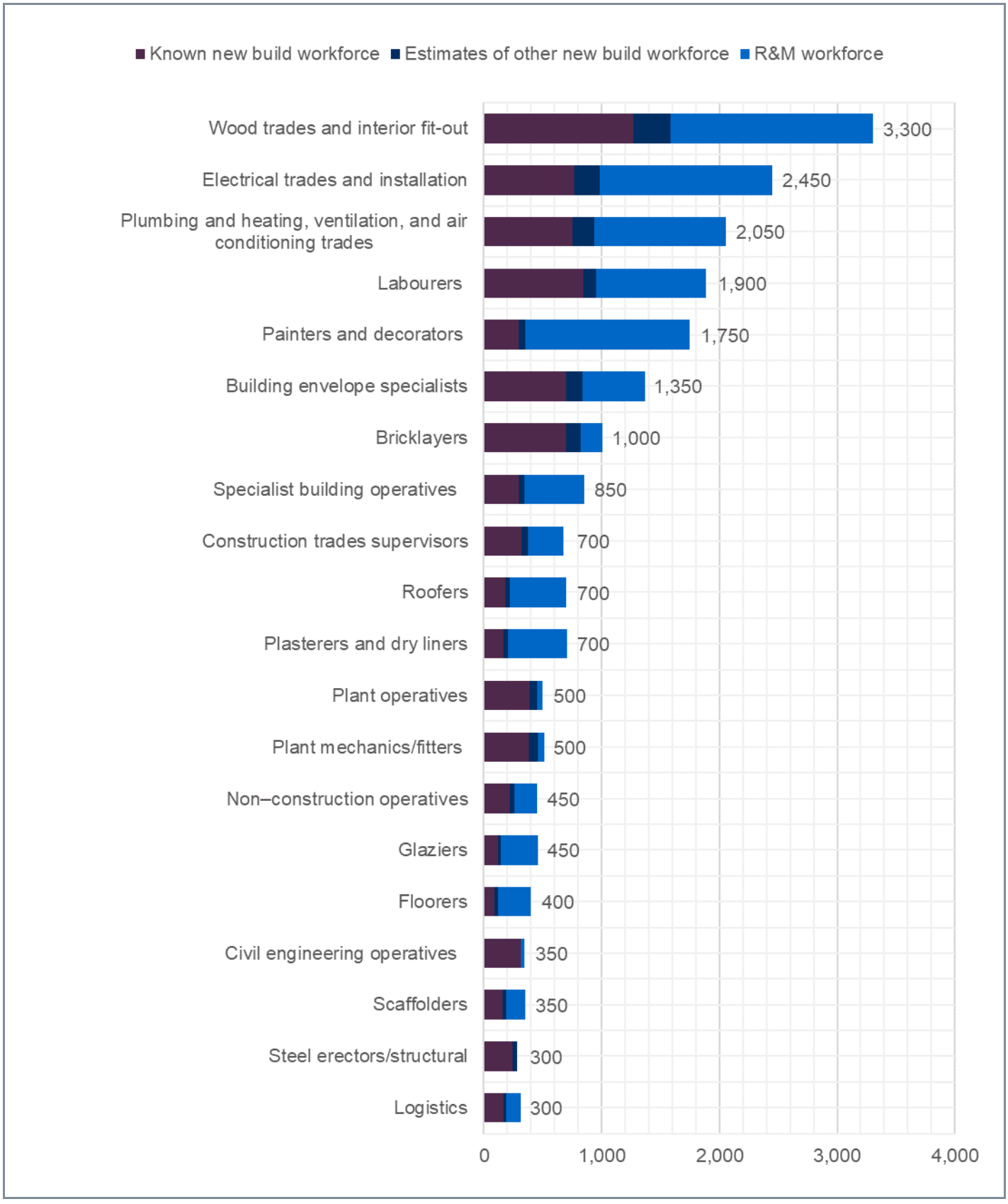


Figure 5: Construction labour demand for skilled trades & operative occupations in the peak year

Figure 6 shows a breakdown of the managerial, professional & office based occupations. Since it is possible for many of these people to work remotely from the site, they will not necessarily generate a local demand.

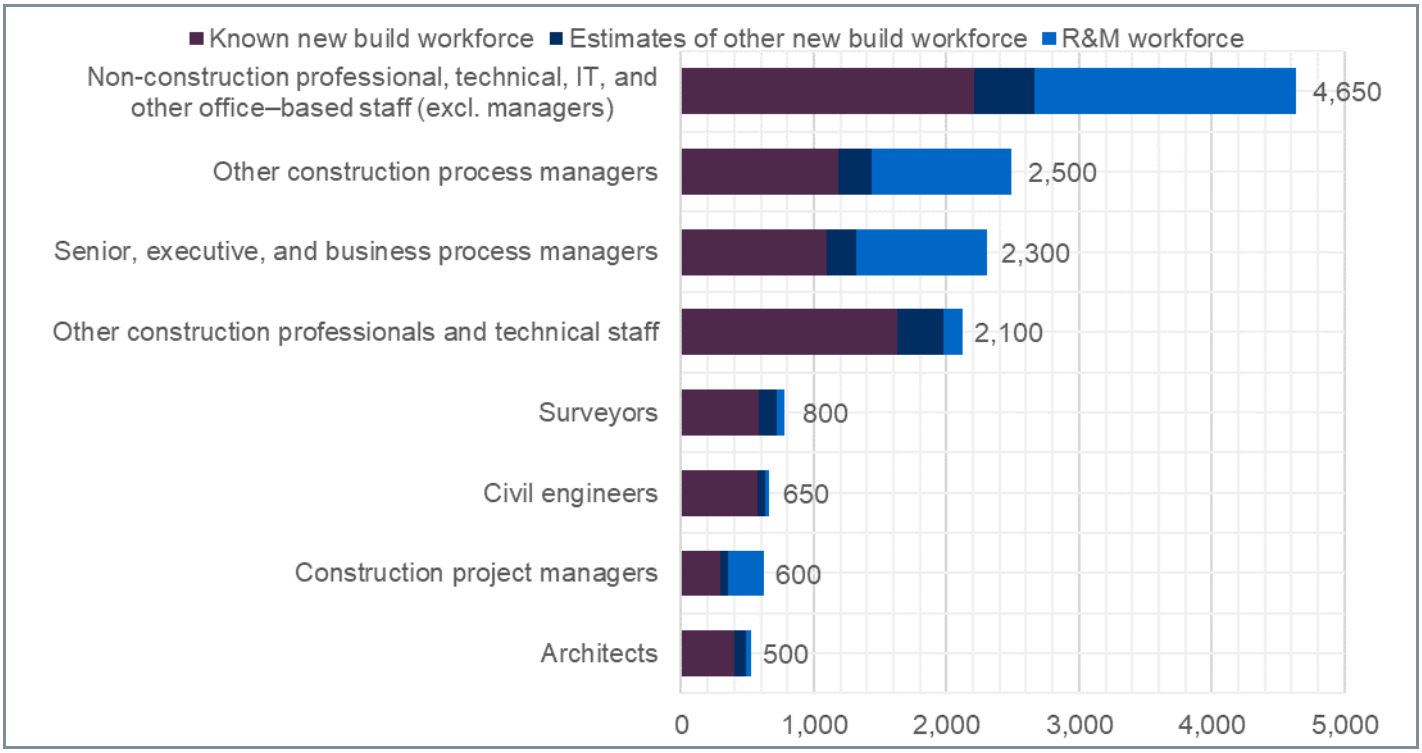


Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year

2.2.2. Breakdown of labour demand by project type

Table 3 shows the labour demand generated by the known projects and the estimates of other work in 2018 broken down by project type.

Table 3: Labour demand by project type in 2018

Project type	Known pipeline labour demand in 2018 (people)	Estimates of other work labour demand in 2018 (people)	Total labour demand in 2018 (people)	% of total in 2018
Non-housing R&M	-	10,550	10,550	30%
Private commercial	4,300	2,500	6,800	20%
New housing	5,700	750	6,450	19%
Housing R&M	100	4,200	4,300	12%
Infrastructure	3,700	-	3,700	11%
Private industrial	1,950	-	1,950	6%
Public non-housing	750	-	750	2%
Total	16.500	18,000	34,500	100%

2.3. HIGH SPEED TWO (HS2)

High Speed Two Ltd has been granted the powers by Parliament to begin the construction of Phase One of HS2 which will be the new high speed line between London, Birmingham, Crewe, Manchester and Leeds. The HS2 route passes through Cheshire with junctions connecting to the West Coast Main Line at a number of locations.

2.3.1. INDICATIVE SCHEDULE

The Government's information states that: The construction of the whole Phase One route will take approximately eight years, from the moment that site clearance work starts to the completion of railway installation. This will be followed by a period of testing and commissioning before the first services commence in 2026.

Phase 2a of the project is from the West Midlands to Crewe, with the first services scheduled for 2027. The line will connect to the West Coast Main Line just south of Crewe allowing trains to call at a redeveloped Crewe hub station. A tunnel under Crewe will also allow through trains to by-pass the station with a junction onto the West Coast Main Line north of the station.

Phase 2b of the project will continue north from Crewe with a junction to the east of High Leigh with one branch to Manchester and another passing to the west of Warrington and connecting to the West Coast Main Line south of Wigan. A rolling stock depot is also proposed for Crewe.

2.3.2. HS2 LABOUR AND SKILLS FORECASTING

High Speed 2 commissioned its own analysis of the demand for construction and the potential impact on the construction industry along the route. And in September 2018, High Speed 2 published its Skills, Employment and Education Strategy available from the HS2 website.

This strategy is linked to the HS2 labour and skills demand and supply forecasting and analysis also available from the HS2 website.

At its peak in 2021/22, the demand for labour generated by construction and rail engineering activities is expected to support around 30,500 jobs, in construction and rail engineering activities, primarily from the Phase One construction. Of these jobs, a peak construction workforce of around 25,600 is anticipated.

In total, more than 15,000 of these jobs are expected to be supported each year between 2019/20 and 2023/24.

A second peak of around 25,000 jobs is forecast resulting from Phase 2b early in the 2030s. The forecast requirement is for over 10,000 jobs to deliver the work every year with the exceptions of 2026/27. A third of the construction jobs are forecast to require skills, at least at NVQ4+ or degree-level so the work represents a significant opportunity to upskill the construction and infrastructure workforce.

To some extent, HS2 is attempting to address some of these potential gaps with the creation of the new National College for High Speed Rail (NCHSR). The proposal is also to establish at least 2,000 apprentices accounting for 4% of the contractors' workforce on the main contracts.

The distribution of labour between regions for Phases 1 and 2a appears **Error! Reference source not found.**.

Table 4: HS2 Construction labour demand by region – Phase One and Phase 2a

Region	Person-years	Peak workforce	Timing of peak
London	50,100	8,800	2021/22
South East	19,300	5,300	2021/22
East Midlands	4,000	1,000	2020/21
North West	4,200	1,200	2021/22
West Midlands	44,300	9,000	2021/22
Total	121,900	25,200	2021/22

Source: High Speed Two labour and skills demand and supply forecasting and analysis, August 2018

The need for roles will not be evenly spread across the spectrum of construction occupations. Occupations including: construction supervisors, scaffolders, plant operatives, civil engineers, are forecast to experience particular labour demand pressures. More detailed information is included in the HS2 labour and skills demand and supply forecasting and analysis.

2.4. BREXIT – DEMAND CALCULATIONS AND FORECASTING

Economic forecasts are predicated on the Brexit position at the time of writing (updated October 2018).

The baseline forecasts that have informed the Construction Skills Network assumes that a deal will eventually be struck within a four year time horizon and it will include some form of trade access to the single market. As it is unlikely that the terms will be as good as the current situation, we have made a small downgrade to our long term export and investment projections, compared to our pre-Brexit vote baseline. No adjustments have been made to underlying population projections in our base case but downside risks clearly exist on this front from a potential slowdown in EU migration.

At the time of writing the proposals meant that after a proposed Brexit transition period, all migrants planning to live and work in Britain would have to demonstrate they are sufficiently skilled by meeting a minimum salary threshold. That figure has not yet been specified but, at present, non-EU migrants must earn more than £30,000 a year to work in the UK, so the assumption is that it will be a similar figure for EU migrants.

Low skilled people will be able to migrate to the UK but only in limited numbers. For example, the government in October 2018 announced a pilot scheme allowing British farmers to bring in fruit and vegetable pickers for up to six months each year during the harvest season. However, it has ruled out a wider system of sector-by-sector exemptions.

The current negotiations are just on the immediate terms of Brexit, the actual trade deal with the EU will take much longer to finalise, hence our four-year horizon.

3. CONSTRUCTION LABOUR SUPPLY IN THE CHESHIRE AND WARRINGTON AREA

When looking at the supply of workers there are two main elements to consider: the size of the current workforce and recent training provision.

The first part of this section takes a view on the current construction employment levels in Cheshire and Warrington and how this relates to overall construction employment across the wider North West region and the UK as a whole. All comparisons have therefore been made against the North West region as a whole and, where applicable, the UK. Data from CITB's Construction Skills Network (CSN) is used along with official Government sources. Employment and employers are considered together as they are intrinsically linked, particularly as a large proportion of construction workers are employed within micro businesses or are self-employed, where the business location is also the home location.

For the second part of this section, whilst training occurs at Further Education (FE) and Higher Education (HE) levels, the main focus of this report is on the FE training that takes place. This is because FE tends to be sourced and delivered in closer proximity to the home and workplace. Higher Education in the region is also analysed, but should be considered in the context of the enhanced mobility levels of the learners at this level.

Finally, the demand forecasts are then compared against employment, training and workforce mobility to give an indication of possible gaps and/or occupational pinch points.

3.1. MAIN POINTS

- Current construction workforce within Cheshire and Warrington is estimated at 39,600 workers – 14% of total in North West
- There are approximately 4,000 construction firms in Cheshire and Warrington – which also represent 14% of the total in North West
- The Cheshire and Warrington area accounts for 11% of all identified construction related training across the North West region
- As a whole, the Cheshire and Warrington area is showing a decrease in the number of construction learner starts although starts on apprenticeships have increased over the same period (2012/13 to 2015/16).
- Just under 80 different providers have delivered training for the Cheshire and Warrington area although approximately 90% of training is being delivered by a core network of 10 providers
- Approximately 3,000 achievements in construction related subjects at Higher Education Institutions in the North West (2015/16)
- The majority of construction graduates from Cheshire and Warrington are in some form of work in the first six months after leaving (87%) - most likely in the Cheshire and Warrington area (26%).

3.2. EXISTING WORKFORCE

An analysis of the Annual Population Survey shows that the Cheshire and Warrington area accounts for around 14% of construction employment in the North West region as a whole. Please note this employment is 'workplace' analysis – i.e. it is the number of workers employed by employers within Cheshire and Warrington.

Following two years of contraction between 2013/14 and 2014/15 the number of construction workers in Cheshire and Warrington has returned to growth in the past two years 2015/16 and 2016/17, outperforming the growth in the North West region as a whole (9.5%) this year. This is shown in Figure 1 below.

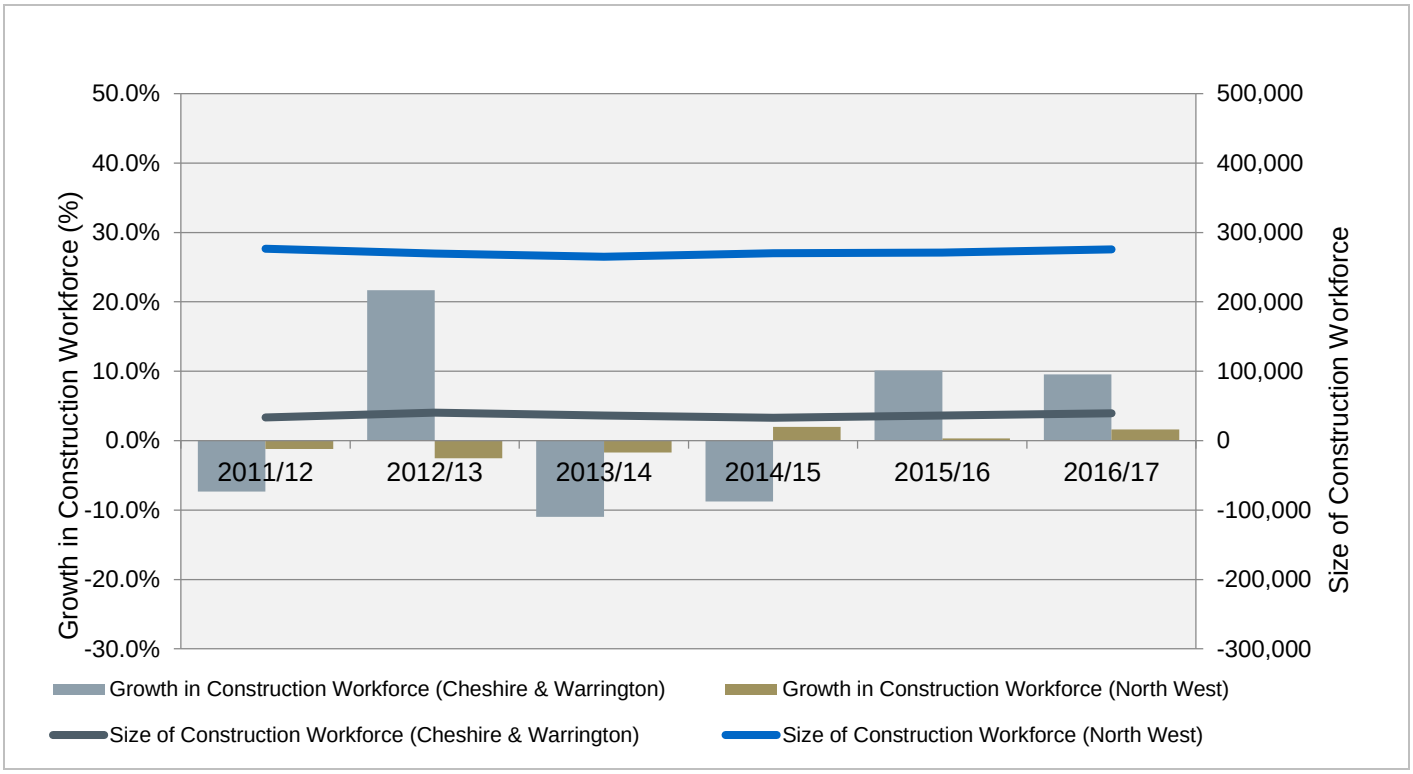


Figure 7: Year on year change in Construction Employment (Experian/CITB & NOMIS 2017)

Table 5 applies the annual percentage shares across the CSN occupational breakdown for the North West region as a whole to give an estimate of total employment at occupational and industry level in the Cheshire and Warrington area. For comparison, the wider North West region has been included.

Table 5: Construction workforce – occupational breakdown, 2016 (Source Experian & CITB)

	Cheshire & Warrington	North West
Other construction professionals and technical staff	3,110	21,580
Other construction process managers	3,080	21,360
Senior, executive, and business process managers	2,430	16,900
Surveyors	950	6,590
Construction Project Managers	720	5,030
Civil engineers	700	4,870
Construction Trades Supervisors	700	4,870
Architects	520	3,580
Wood trades and interior fit-out	3,800	26,360
Electrical trades and installation	3,240	22,470
Plumbing and HVAC Trades	2,480	17,240
Labourers nec*	2,300	15,960
Painters and decorators	1,420	9,900
Building envelope specialists	1,130	7,870
Bricklayers	1,120	7,800
Roofers	830	5,760
Specialist building operatives nec*	800	5,550
Plant mechanics/fitters	680	4,690
Plasterers	670	4,630
Plant operatives	660	4,610
Floorers	500	3,460
Scaffolders	440	3,060
Glaziers	390	2,700
Steel erectors/structural fabrication	340	2,370
Logistics	320	2,240
Civil engineering operatives nec*	170	1,200
Non-construction professional, technical, IT, and other office-based staff	5,620	39,050
Non–construction operatives	540	3,770
Total	**39,660**	**275,450**

Note: numbers rounded to the nearest 10
Note: nec: not elsewhere classified; HVAC: Heating, ventilation and air-conditioning.*

Key
Manager/Professional occupations
Skilled Trades
Office-based Staff

Self-employment accounts for 30% of the Cheshire and Warrington construction workforce lower than across the North West (37%)

The number of construction businesses within the Cheshire and Warrington area has consistently averaged 14% of all construction businesses in the North West over the seven year period (2011 to 2017). In actual numbers, the increase in construction businesses in the Cheshire and Warrington region is 700 from 2013 to 2017, a 21% rise over this period, this is comparable to the rise in both the North West region overall and the UK (both 24%), as shown in Figure 8 below.

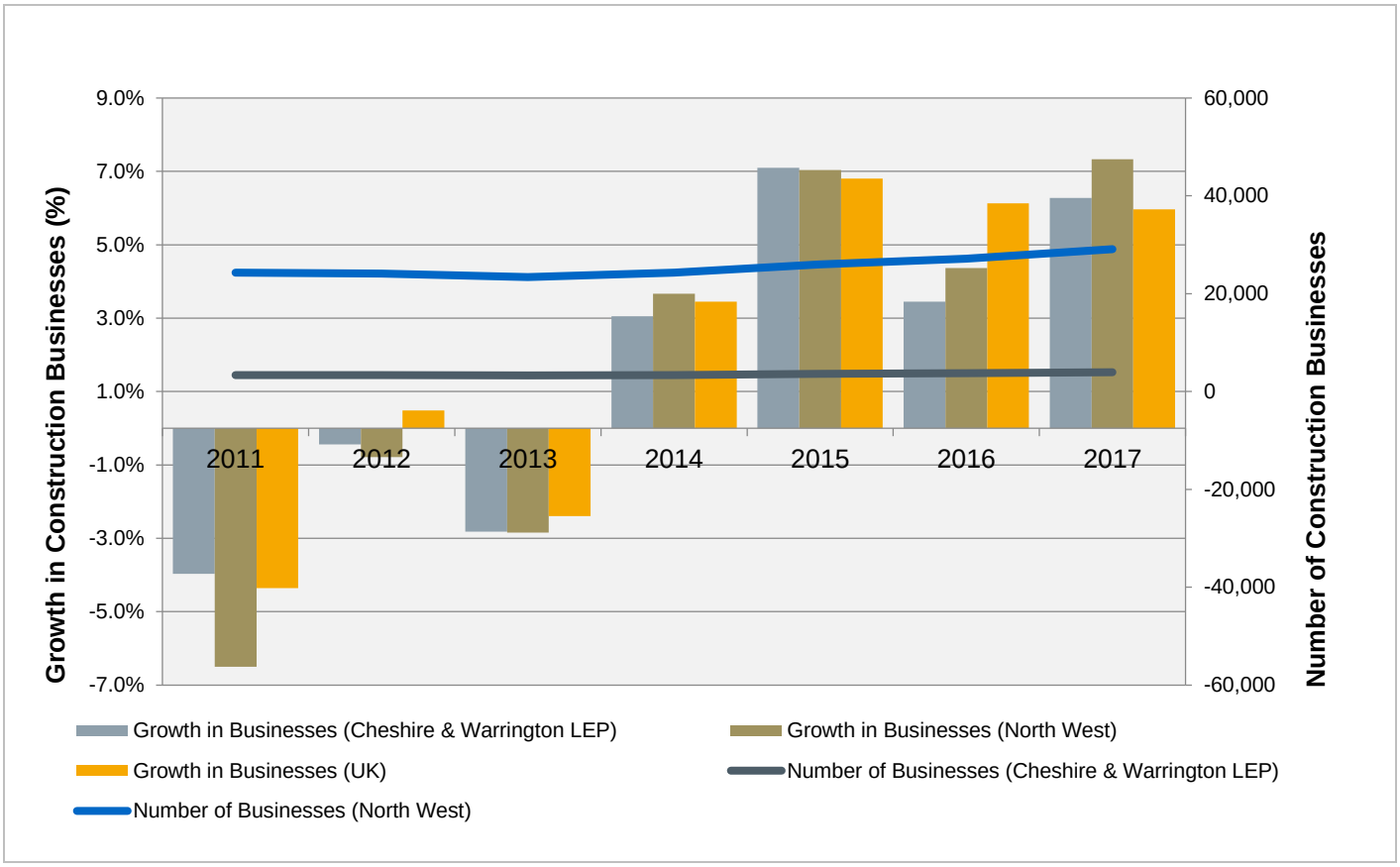


Figure 8: Year on year change in Construction Businesses (UK Business Count, NOMIS 2017)

Figure 9 shows the distribution of construction businesses within the Cheshire and Warrington area and Figure 10 shows the distribution of the construction workforce.

The two profiles are similar, with Cheshire East having the highest share of both businesses and workforce (46% and 36% respectively), followed by Cheshire West which has exactly the same share of both (34%) while Warrington has the smallest share of businesses (20%) and the workforce (30%).

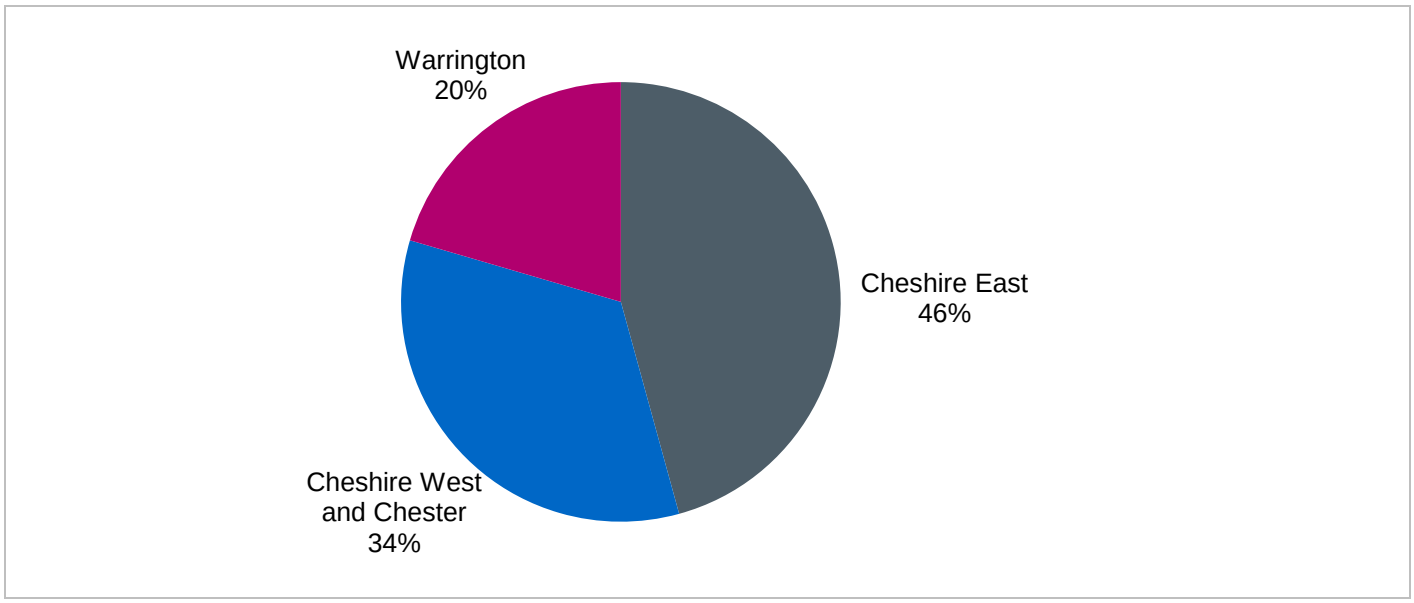


Figure 9: Distribution of construction businesses within the Cheshire and Warrington area (UK Business Count, NOMIS 2017)

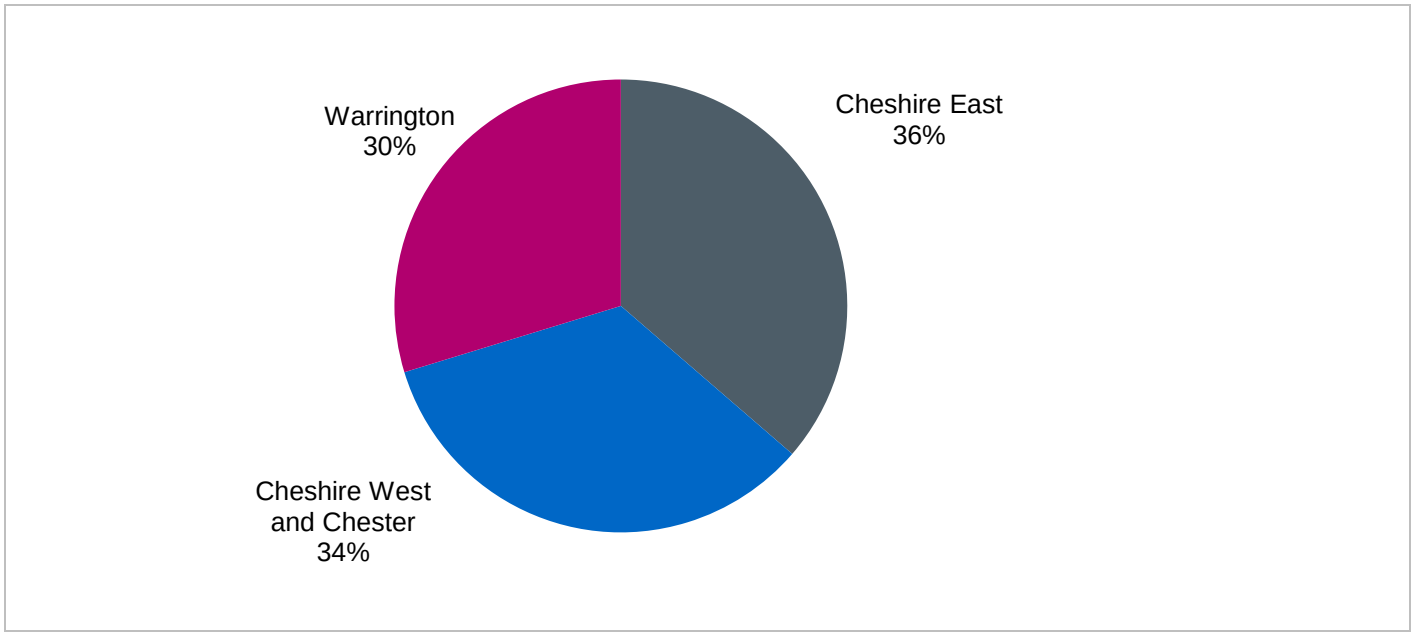


Figure 10: Construction employment by area within the Cheshire and Warrington area (2017, NOMIS)

When it comes to business size, the distribution of companies across the Cheshire and Warrington area is however largely reflective of the pattern seen across the North West as a whole, and indeed the United Kingdom, with the majority of construction companies being micro sized, as shown in

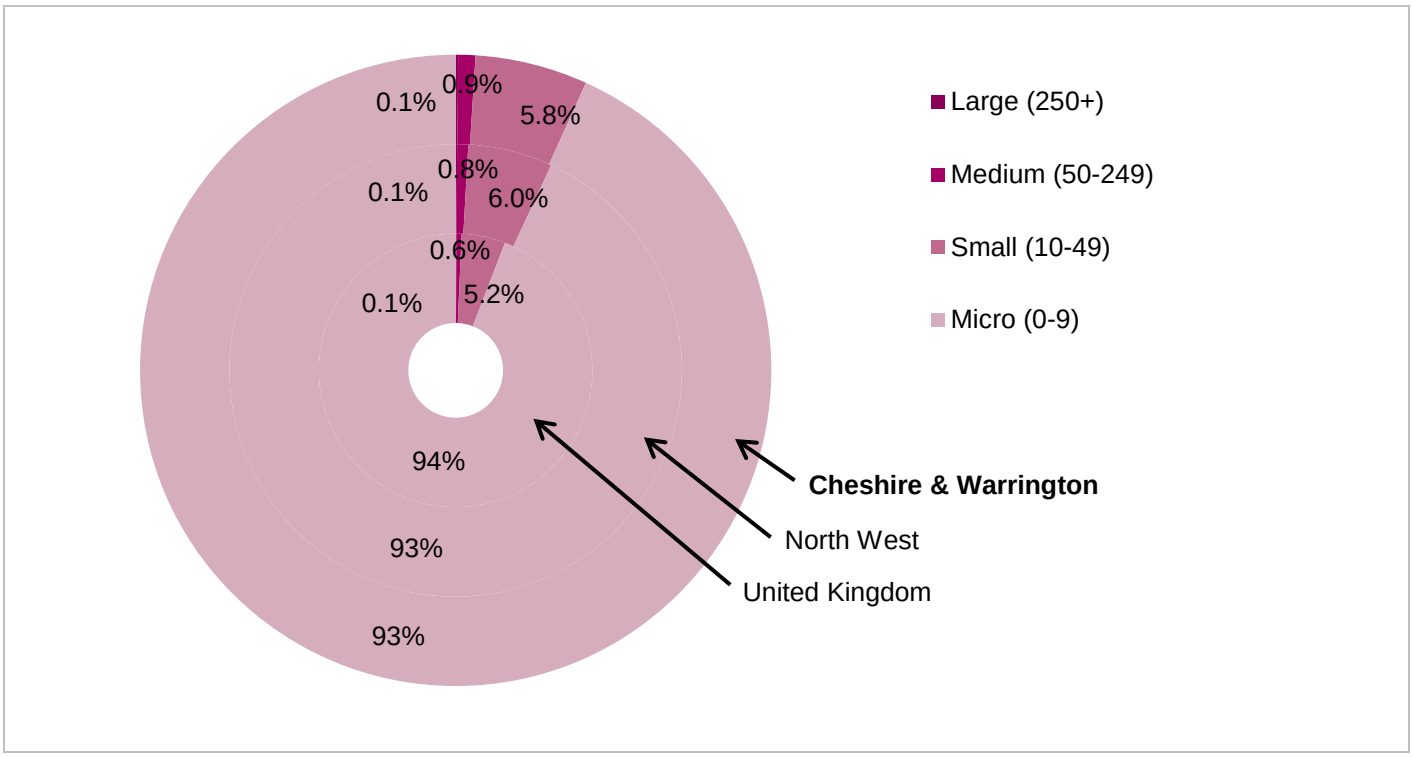


Figure 11: Construction Businesses by Size (UK Business Count, NOMIS 2017)

The majority of growth in construction businesses within Cheshire and Warrington has been due to an increase in the number of micro sized companies, accounting for 96% of the growth in construction businesses from 2013 to 2017 during this period. Growth in micro businesses in the Cheshire and Warrington area has increased at a slightly lower rate than the North West (22% growth in Cheshire and Warrington vs 26% in the North West region as a whole since 2013).

4. TRAINING PROVISION

The total volume of training provision in the Cheshire and Warrington area reduced over the four years from 2012/13 to 2015/16, with the number of new starters decreasing by 16% over this period. Training provision appeared to then level out for 2016/7 However, despite an overall decline in numbers, the starters on apprenticeships has increased significantly over the same period.

CITB analysis of Education and Skills Funding Agency (ESFA) Individualised Learner Records from 2012/13 through to 2016/17 academic years for construction learners shows that:

- The Cheshire and Warrington area accounts for around 11% of all identified construction related training across the North West region.
- As a whole, the Cheshire and Warrington area experienced a decrease in the number of construction learner starts of -14% across the four years to 2015/16 when the wider North West region also experienced a similar change over the same period. However between 2015/16 and 2016/17 total starts for the North West region increased again to address half that decline, while in the Cheshire & Warrington area no similar increase in starts took place.
- Although construction apprenticeship starts have increased across Cheshire and Warrington (13% increase from 2012/13 to 2016/17), this is lower than the increase in construction apprenticeship starts across the North West as a whole over the same time period (23%).
- Construction training within Cheshire and Warrington is balanced slightly more towards qualifications at Level 2 and above, which has accounted for 69% of starts.
- In terms of training providers, just under 80 different providers have delivered training for the Cheshire and Warrington area between 2012/13 and 2016/17. However, there is a consistent pattern with approximately 90% of training being delivered by a core network of ten providers.
- The largest providers of construction training to the area are: Warrington & Vale Royal College; LTE Group (formally known as Manchester College); West Cheshire College and South Cheshire College. [It is likely that a large proportion of the training provided by LTE Group is through its subsidiary Novus to inmates of HM Prison Service.]

“Knowledge” based qualifications describe those qualifications that typically have a theoretical basis so are more likely to be ‘classroom based’. “Competence” based qualifications, in the main achieve a recognised NVQ and so a link can be made between the qualification title and the likely occupation that an individual will have. For example someone starting or achieving a Bricklaying qualification is highly likely to be working as a Bricklayer as competence based qualifications are based on an assessment of work based skills.

Table 6 shows qualification achievements over the last four years for the identified competence based qualifications, comparing achievement volumes against the overall pattern for the North West as a whole. From this analysis there looks to be patterns for particular occupations. The majority of these achievements are at Level 2 and above (69%).

The percentage comparison with the North West region as a whole is used to demonstrate how the provision of training in Cheshire and Warrington by occupation is relatively high or low against the regional context.

The first group of occupations to be identified account for the main training volumes, and are generally consistent with the overall training pattern seen in the North West. These are:

- Plant operatives
- Wood trades and interior fit-out
- Electrical trades and installation, and
- Plumbing and HVAC trades

Here the qualification achievements are consistent with or slightly lower than the overall share of training being achieved in the area. For occupations such as wood trades and plumbing, the volume of training will be related to their share of employment, while for others such as plant operators, training will be more related to the need to demonstrate competence for these roles through card scheme monitoring (for example the CPCS Card scheme for Plant Operatives).

Table 6: Competence qualification achievements in Cheshire and Warrington as a % of total competence qualification achievements in North West region as a whole (Source: CITB/ESFA)

Construction Occupations	12-13	13-14	14-15	15-16	16-17	Total Competence Achievements (Learner Aims) 12-13 to 16-17	Total
Total	**11%**	**11%**	**9%**	**11%**	**12%**	**3,230**	**11%**
Main Occupations							
Plant operatives	11%	9%	4%	19%	68%	460	10%
Electrical trades and installation	12%	11%	9%	11%	12%	390	11%
Wood trades and interior fit-out	10%	6%	7%	7%	8%	380	8%
Plumbing and HVAC Trades	8%	10%	8%	11%	9%	340	9%
Civil engineering operatives nec*	20%	16%	24%	26%	12%	270	18%
Occupations with good provision							
Plant mechanics/fitters	27%	50%	54%	35%	43%	200	43%
Glaziers	7%	55%	16%	8%	12%	180	23%
Scaffolders	8%	20%	11%	14%	9%	120	12%
Floorers	18%	4%	18%	15%	17%	90	16%
Occupations to Monitor							
Bricklayers	9%	7%	8%	9%	15%	200	10%
Painters and decorators	11%	6%	9%	7%	16%	140	10%
Specialist building operatives	9%	2%	4%	2%	3%	90	5%
Building envelope specialists	7%	6%	2%	11%	10%	80	6%
Plasterers	13%	5%	4%	6%	3%	80	7%
Low Overall Learner Volumes							
Construction managers	27%	17%	6%	0%	17%	50	23%
Construction Trades Supervisors	10%	6%	8%	10%	10%	50	10%
Logistics	72%	0%	0%	91%	0%	50	51%
Roofers	11%	23%	4%	6%	5%	50	9%
Other construction prof/tech staff	4%	0%	2%	14%	6%	10	5%
Steel erectors/structural	0%	0%	0%	0%	0%	0	0%

*nec – not elsewhere classified

Note: Total achievements are across the period 2012-13 to 2015-16 have been rounded to the nearest 10

There is a second group of occupations with good provision: where there appears to be a higher level of provision for occupations such as glaziers, civil engineering operatives, plant mechanics/fitters, bricklayers and scaffolders. It could be that there are providers with particular specialisms in these areas operating with the area, or a particular need for this type of training.

The third group – occupations to monitor: identifies a small number of occupations where we would expect higher levels of training, again linked to either the occupational size and/or demonstrating competence. This cluster includes painters and decorators, specialist building operatives, building envelope specialists, floorers, plasterers and roofers, and represents where training happening within the area is lower than would be expected. It is possible that individuals within Cheshire and Warrington may be travelling outside the area for this type of training.

Lastly there is a group of occupations where the low level of learner volumes makes it difficult to judge patterns across the years. Whilst the training provider network can adjust to cover changes in demand, there will be a requirement for a certain volume of training to make it viable for a provider to deliver it. These occupations could suffer from this intermittent demand or learners could be travelling further afield to more specialist training providers.

In terms of training providers, just under 80 different providers have delivered training for the Cheshire and Warrington area between 2012/13 and 2016/17. However, there is a consistent pattern with approximately 90% of training being delivered by a core network of 10 providers, as shown in Table 7.

Table 7: Top ten training providers delivering training to Cheshire and Warrington by number of starts – excluding apprenticeships (Source: CITB/ESFA)

Provider	2012-13	2013-14	2014-15	2015-16	2016-17	Total (Learner Aims)	% Share of Total Quals	% of Quals Ofqual Registered
Warrington & Vale Royal College	930	520	700	630	530	**3,310**	21%	82%
LTE Group	1,580	600	420	300	240	**3,150**	20%	44%
West Cheshire College	410	390	360	320	300	**1,780**	12%	92%
South Cheshire College	380	420	330	360	270	**1,750**	11%	91%
Mid-Cheshire College	370	360	240	200	140	**1,310**	8%	89%
Macclesfield College	180	130	120	100	100	**630**	4%	79%
Reaseheath College	80	70	70	100	120	**440**	3%	98%
Calderdale College	100	100	10	0	210	**430**	3%	70%
Cheshire West & Chester Council	100	80	90	60	90	**420**	3%	75%
Cheshire East Council	60	60	70	60	110	**360**	2%	82%

Note: Number of starts has been rounded to the nearest 10

RAG rating indicates providers' performance against the average for all providers in the area (79%)
LTE Group - formerly known as Manchester College

All of the top ten providers are located within the Cheshire and Warrington area, with the exception of LTE Group (the rebranded Manchester College) and Calderdale College (in Halifax). Warrington & Vale Royal College and LTE Group are the largest providers of construction training to the area, although they provide vastly different percentages of Ofqual registered qualifications compared to the average for the area (71%).

This profile is typical of many areas, where a relatively small group of FE colleges deliver the majority of construction training. A smaller proportion of additional training is then delivered by a larger number of other providers. Sometimes these smaller specialist providers can operate far from the normal base of those for whom they provide training. In total this training covers the majority of the main occupations involved in the construction workforce.

LTE Group includes Manchester College but also the Novus Group that provides training services to HM Prisons, so it is likely that a large proportion of the achievements have been delivered within the justice system. It is notable that LTE Group achievements have declined significantly since 2012-13.

When looking at training provision across individual local authorities within Cheshire and Warrington:

- Starts have relatively static in Cheshire East; whereas both Cheshire West and Chester and Warrington have decreased.
- Although the number of starts in Warrington has declined it is above average along with Cheshire East for having qualifications at Level 2 or above

Table 8: Unique Learner starts by area, construction subjects, all levels (Source: CITB/ESFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	% Net change 12/13 – 16/17	% Quals at Level 2+
Cheshire East	950	960	930	1,050	970	2%	72%
Cheshire West and Chester	1,110	1,000	890	810	850	-24%	58%
Warrington	1,270	1,010	1,110	1,060	1,080	-15%	72%
Grand Total	3,280	2,900	2,840	2,810	2,800	-14%	67%

Note: Number of starts has been rounded to the nearest 10

RAG rating indicates Local Authority performance against the average for all Local Authorities in the area

As a whole, the Cheshire and Warrington area is showing a decrease in the number of construction learner starts of around 14% across the five years at a time when the wider North West region also experienced a similar decline over the same period.

However, countering this decline there has been an increase in the number of apprenticeship starts within Cheshire and Warrington between 2012/13 and 2016/17. Whilst the college based courses are an important stepping stone or progression route for learners to acquire knowledge, construction employers tend to have a preference for practical or competence based skills, so it is positive that the area has witnessed this increase in apprenticeships over these four years. Apprenticeships are investigated in more detail in the next section.

4.1. APPRENTICESHIPS

When apprenticeships are considered as a subset of all construction training in Cheshire and Warrington, we can see that the number of apprenticeship starters is increasing at a time when volumes of training overall are declining. Table 9 shows that the number of apprenticeship starters in the Cheshire and Warrington area went up by 20% from 2012/13 to 2015/16, in comparison to the 14% overall decrease in the total number of construction learner starts across the same time period (see Table 8).

Cheshire East was the only Local Authority within the Cheshire and Warrington area which had an increase in apprenticeship starts from 2012/13 to 2015/16.

The Cheshire and Warrington area has, on average, 13% share of total apprenticeship starters per annum in the North West region, however the overall increase of 160 construction apprenticeship starters (a 20% increase) from 2012/13 to 2015/16 across Cheshire and Warrington is below the overall increase of 32% construction apprenticeship starters for the North West region as a whole.

Table 9: Unique apprenticeship starts by area (Cheshire and Warrington), construction subjects (Source: CITB/ESFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Increase/ decrease	% Net Change
Cheshire East	220	250	290	350	360	140	61%
Warrington	280	220	300	300	300	20	8%
Cheshire West and Chester	220	190	220	220	190	-40	-17%
Grand Total	**680**	**610**	**750**	**800**	**780**	**100**	**14%**
Sum of individual LA data	720	660	800	870			

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

RAG rating indicates Local Authority performance against the average for all Local Authorities in the area (14%)

In early consultation on this report variations in apprenticeship numbers between available EFSA and local authority data were noted, with local authority apprenticeship numbers higher for each year (as shown in the bottom row of Table 9). There are a number of reasons for this linked to the search characteristics used to extract specific sets of data. However some of the variation will also be attributable to unique learners who have switched course or provider, and so triggered what appears to be a second start..

Table 10 considers apprenticeship starts by trade, and shows the biggest increase in volume terms has occurred in plant mechanics/fitters and wood trades and interior fit-out (both increases of 50 or higher). Plumbing and HVAC trades, roofers, scaffolders and glaziers have all experienced a decrease in apprenticeship starts over the same time period.

Table 10: Unique apprenticeship starts by occupation (Cheshire and Warrington), construction subjects (Source: CITB/ESFA)

Occupation	2012-13	2013-14	2014-15	2015-16	2016-17	Increase/ decrease
Wood trades and interior fit-out	70	110	100	120	160	90
Bricklayers	50	70	80	80	90	40
Plant mechanics/fitters	90	90	120	150	130	40
Plant operatives	0	0	40	20	30	30
Civil engineering operatives nec*	10	0	10	10	20	10
Other construction prof. and tech. staff	0	0	10	20	10	10
Construction Trades Supervisors	0	0	10	20	10	10
Specialist building operatives nec*	10	0	10	10	10	0
Electrical trades and installation	120	120	140	160	120	0
Painters and decorators	20	20	30	20	20	0
Floorers	10	10	10	10	10	0
Plasterers	10	10	10	10	10	0
Plumbing and HVAC Trades	80	90	70	70	70	-10
Building envelope specialists	10	0	0	10	0	-10
Roofers	20	10	10	0	0	-20
Scaffolders	110	40	90	70	80	-30
Glaziers	90	40	10	20	10	-80

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

Table 11 considers apprenticeship starts by provider. Just over 50 different providers have delivered apprenticeships in construction for the Cheshire and Warrington area. However, as with non-apprenticeship training starts, the bulk is being delivered by a core network of 10 providers who account for nearly 90% of all provision in the area. CITB is by far the largest provider, delivering around 300 new apprenticeships starts a year for the past three years.

Table 11: Unique apprenticeship starts by provider in Cheshire and Warrington (subjects (Source: CITB/ESFA)

Provider	2012-13	2013-14	2014-15	2015-16	2016-17	Total	% Share
CITB	240	190	280	300	280	1,300	35.9%
Total People Limited	80	70	120	80	110	460	12.7%
Warrington & Vale Royal College	70	100	80	90	110	460	12.7%
South Cheshire College	20	30	40	50	50	190	5.3%
Mid-Cheshire College	20	30	40	30	50	170	4.6%
The Vocational College Ltd	100	40	10	10	0	160	4.3%
JTL	30	30	40	30	20	140	3.8%
West Cheshire College	10	30	30	30	30	140	3.8%
Reaseheath College	20	30	20	20	20	110	3.0%
SBC Training Limited	10	20	10	30	0	80	2.1%

Note: Number of starts and any increase/decrease have been rounded to the nearest 10

4.2. HIGHER EDUCATION

The Cheshire and Warrington area has one Higher Education (HE) provider based within the location; therefore this section will broaden the locality and consider the North West as a whole when examining the outcomes of students. Additionally, this section will also focus on construction graduates who specified their domicile as within the Cheshire and Warrington area prior to the commencement of their course.

There are five broad HE qualifications that relate to construction: Architecture, Building, Civil Engineering, Planning, and Landscape & Garden Design.

All these courses are offered in the North West region at the 10 HE institutions that offer construction-related courses.

Figure 12 shows the number of achievements per annum at the institutions offering construction-related courses at HE level in the North West. Since 2012/13 these have been decreasing year on year from to 2,960 achievements in 2015/16 (a 19% decrease), but it is interesting to note that the reduction in numbers has been concentrated mainly in Building (-540 in absolute numbers, a 39% decrease).

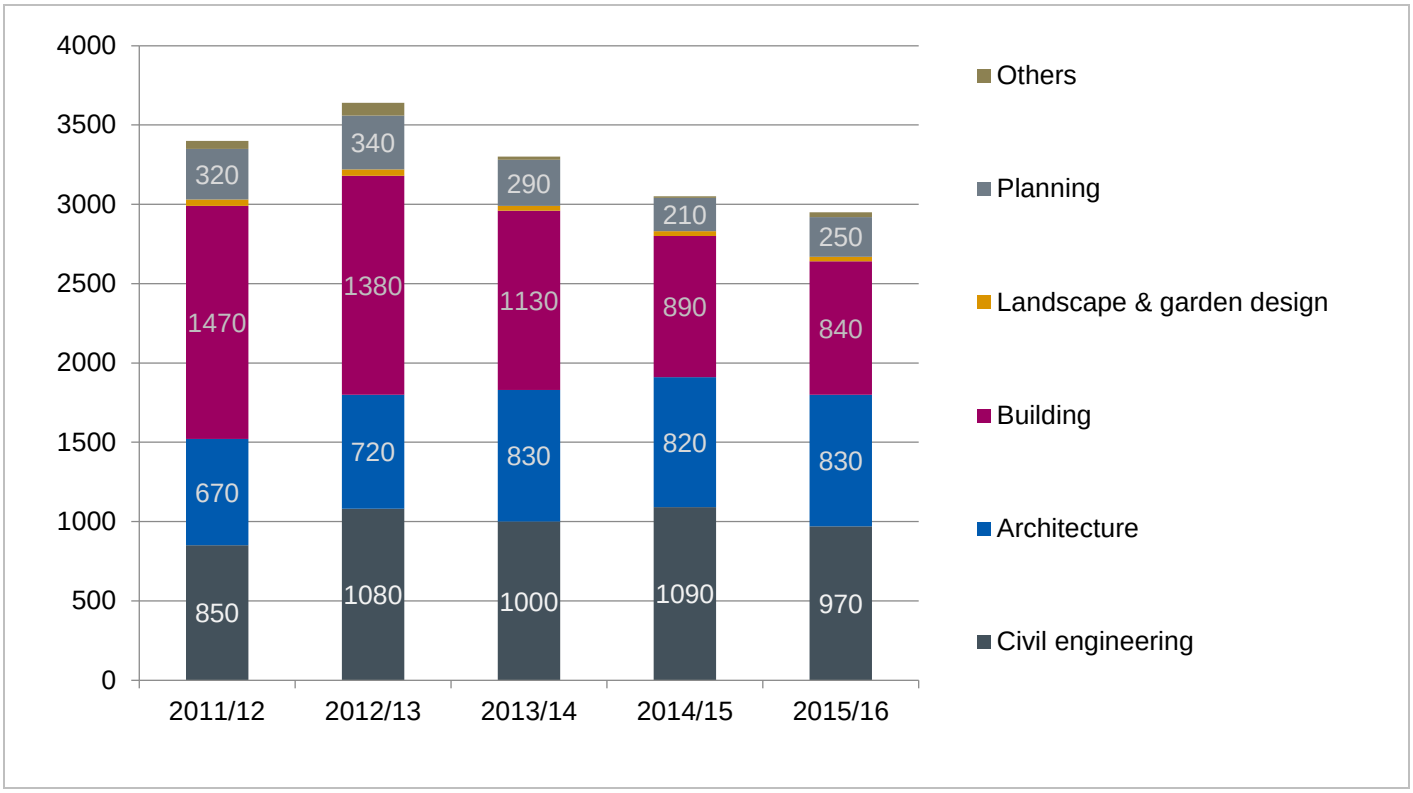


Figure 12: Higher Education achievements per annum in the North West (Source: HESA)

Table 12 looks at the spread of higher education achievements by qualification area across the institutions in the North West for the 2015/16 academic year. This highlights that two providers – Liverpool John Moores and the University of Salford account for over half (53%) of achievements in the North West.

Table 12: Achievements on construction related degree courses at HE institutions in the North West – 2015/16 academic year (Source: HESA)

HE provider	Civil engineering	Archi-tecture	Building	Landscape & garden design	Planning	Others	Total
The University of Liverpool	120	360	0	0	150	0	630
The University of Manchester	480	<10	<10	<10	100	30	610
The University of Salford	150	60	350	<11	<10	<10	560
Liverpool John Moores University	150	110	290	0	<10	0	550
The Manchester Metropolitan University	0	250	0	20	0	0	270
The University of Central Lancashire	10	50	140	0	<10	0	200
The University of Bolton	60	<10	50	0	0	0	120
The University of Lancaster	10	0	0	0	0	0	10
University of Cumbria	0	0	<10	0	0	0	<10
University of Chester	0	0	<10	0	0	0	<10
Total	970	830	840	30	250	30	2960

When achievements within the North West for 2015/16 are considered as a proportion of those currently employed in the corresponding roles in 2016, Civil Engineering achievements account for about 7% of the current number of civil engineers; Building achievements also account for 7% of the current number of construction project managers and construction trade supervisors; and Architecture achievements account for 12% of the current number of architects. Less positively, due to the low number of Planning achievements, these only form a negligible percentage of people currently in these occupations in the North West.

These figures for achievements per annum considered as a percentage of the existing workforce are strong, indicating a good level of higher education provision in the North West for construction. However, unlike Further Education, there is a greater likelihood that after graduation, HE students will be more mobile and may take up employment opportunities out of the area, or not take up positions in the jobs for which they studied. Nevertheless, it gives a crude indication of the adequacy of provision for these subjects within the area, implying that apart from Planning, HE availability is sufficient to meet likely demand and the challenge will therefore be whether these graduates can be retained within the area to fill any demand for these roles that may exist going forward. The adequacy of skills supply and forecast demand is considered later in this report.

Once a student has finished their course there is limited centrally available data on their destination – both in terms of career type and location, however it is possible to provide a snapshot of the activities of students after they have left a higher education provider via a survey carried out approximately six months after students leave.

Of the 150 Cheshire and Warrington domiciled students who graduated from a construction related subjected at HE providers across the UK in 2015/16:

- Approximately two-thirds (62%) had graduated with a first degree
- Just under half (46%) were at a provider in the North West, with the majority at either Liverpool John Moores or University of Salford, accounting for around two-thirds (65%).

The majority of qualifiers (87%) are in some form of work in the first six months after leaving They are most likely to be working in the Cheshire and Warrington area (26%) followed by Greater Manchester (23%) and Greater London (17%). Two-thirds of all the qualifiers (66%) were working in a construction related occupation with the largest share (40%) working within architectural or engineering activities.

4.3. CAREER PROGRESSION

Relatively limited information is available to explain any trends in career progression. The complexity of occupations, qualifications and the inability to track individuals make establishing a clear picture extremely difficult.

There is some anecdotal evidence to suggestions that:

i. Some more experienced workers are able to move into supervisory roles.

ii. Some experienced workers take on a greater variety of occupational skills (and are therefore able to say they have experience working in several occupations)

iii. There is more structured career progression among the professions (backed by professional development/CPD routes through professional chartership, to allow individuals to work progressively towards Member or Fellow status. However not all professionals will be a part of a professional body.)

iv. The professions are more likely to work to an older age in their chosen field. However this is balanced against professionals tending to start at an older age as a result of the need for higher level education and accreditation.

In December 2016 CITB commissioned a report considering “Career progression in the construction industry”. This identified a number of trends in relation to the Progression of construction workers into teaching and training roles.

Anecdotal evidence suggests that the primary issue, especially amongst full-time teaching staff, is fear about losing touch with one’s professional or vocational background. There is a view that that regular return to industry should be facilitated so that technical teachers could refresh their practical knowledge, skills, and stay abreast of innovation.

Results of a 2010 study into what employers wanted from training and trainers showed that, while they prioritised industry skills and knowledge above education skills and knowledge, a complex mixture of the two was required, which was generally felt to be lacking.

This suggests that initiatives aiming to utilise ‘retirees’ in Vocational Education Training (VET) needs to consider how individuals can keep their skills up-to-date.

In this sense whilst any initiative to engage retirees in training has some benefit in terms of keeping skilled people engaged with the sector it creates another challenge if employers perceive those individuals to have ‘out-dated’ skills.

5. MOBILITY OF THE WORKFORCE

5.1. MAIN POINTS – MOBILITY

- Two fifths of North West construction workers have worked in the construction industry for at least ten years; two-thirds have worked in the industry for at least 10 years (66%).
- The majority of construction workers in the North West (91%) started their construction career there. Workers in the North West are among the most likely to have remained in the same region/nation in which they were based for their first construction job.
- Within the North West, the average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 20.5 miles (22 miles is the UK average).
- More than three quarters of all construction workers in the North West are confident that when they finish their current job they will get a job that allows them to travel from their permanent home to work on a daily basis (79%).
- Overall around two fifths of all construction workers have only worked on one type of project (43%)
- Around half of construction workers in the region aged under 60 say they definitely will be working in the industry in 5 years' time (52%) and a further third think it is very or quite likely (33%).

Construction workforces are fluid by nature and this section of the report will look at findings from the CITB survey into Workforce Mobility and Skills in the UK Construction Sector 2015 to give a picture of mobility within the workforce. Data specific to the North West Region will be analysed in order to understand how this might impact on future training interventions and the supply of job opportunities for local people.

Table 13 shows the region or nation an employer currently operates in compared with the region or nation they were previously working in. This is taken from the CITB survey into Workforce Mobility and Skills and gives an indication of the inter-regional movement of workers. In comparison with other English regions, the North West has a relatively large proportion of workers who spend some or all of their time in the region to work.

As some respondents would have indicated that they had worked in more than one region, the totals for percentage figures in the table exceed 100%.

Proximity to centres of population and economic activity

It is important to note that, while intra-regional flows cannot be identified from within regional data, it is extremely likely that workers and students will cross the boundaries of the Cheshire & Warrington area to and from surrounds areas. Those flows are likely to be particularly significant with Greater Manchester, Liverpool City Region and Stoke-on-Trent.

Table 13: Region/nation employer operates in, compared with region/nation working in currently

Region/nation employer operates in	Region/nation currently working in											
	EM %	EE %	GL %	NE %	NW %	NI %	SC %	SE %	SW %	WA %	WM %	YH %
East Midlands	**83**	16	8	13	**3**	2	4	12	8	7	24	11
East of England	12	**67**	15	11	**2**	1	4	19	8	7	9	6
London	10	27	**84**	13	**4**	1	5	27	12	7	9	6
North East	9	9	8	**93**	**3**	1	4	6	7	7	8	15
NORTH WEST	**11**	**9**	**8**	**14**	**93**	**1**	**4**	**6**	**7**	**11**	**11**	**10**
Northern Ireland	3	3	3	2	**1**	**99**	3	2	1	3	2	1
Scotland	6	4	6	9	**1**	2	**97**	2	4	4	5	4
South East	13	23	27	12	**3**	*	4	**65**	21	7	11	6
South West	9	5	7	10	**3**	*	4	18	**83**	10	15	5
Wales	6	5	5	8	**3**	*	4	3	10	**96**	14	4
West Midlands	21	9	8	12	**6**	*	4	7	12	9	**92**	8
Yorkshire & the Humber	15	10	7	19	**4**	1	5	6	8	8	8	**88**
Republic of Ireland	1	2	3	*	*****	2	1	1	1	2	2	*
Other parts of Europe	*	*	*	1	**0**	0	0	0	*	0	1	0
Outside Europe	*	1	0	*	**0**	0	0	0	*	0	*	0
Other / Unsure	1	3	2	3	**2**	*	1	3	1	*	1	3
Unweighted bases	410	366	452	427	435	274	463	439	494	290	352	369

Source: Workforce Mobility and Skills in the UK Construction Sector 2015 Report. BMG Research on behalf of CITB. Base: All respondents. *denotes less than 0.5%

5.2. WORK HISTORY

Two thirds of construction workers in the North West have worked in the industry for at least 10 years (66%), which is much higher that the UK average (56%), with more than a third working in the construction industry for over 20 years (40%). Within the North West the most likely reason for working in the region is because they grew up there/have always lived there (69%), with a further 6% mentioning other reasons to do with their family. The majority of construction workers in the region have remained in the North West for all or most of their career (91%), again higher than the UK average of 80%.

The stability of the construction workforce in the North West is emphasised by the finding in the majority of cases (89%) workers reported their last site was also in the North West.

In terms of the regions/nations in which workers' current employer operates in, the majority (93%) of workers in the North West reported that their employer operated within the region they were currently working in, whilst a very low percentage cited their employer operating in Yorkshire and Humber (4%) and London (4%).

5.3. WORKER ORIGINS

Workers were asked which region/nation they were living in just before they got their first job in construction in the UK. Overall nearly all construction workers in the North West (91%) were interviewed in the same region in which they were living in when they started their construction career. Workers currently based in the North West are among the most likely to have remained in the same region in which they were based when they started their construction careers, on par to Yorkshire and Humber (90%) and Wales (94%) in this respect.

Furthermore construction workers in the North West, are again most likely to have stayed in the region where they studied for their first qualification (90%), with the North East, Scotland and Northern Ireland having higher percentages. This finding emphasises the low levels of mobility within this region for leaning and training, as well as working.

5.4. TRAVEL TO SITE

The majority of construction workers were interviewed on a site that was located within the same region/nation as their permanent home. However, one in eight workers in the North West are travelling into the region for work from another region/nation in which their current residence is based (12%, including those travelling into the region from a neighbouring region/nation).

Workers in the North West were asked to indicate the furthest distance they have worked from their permanent or current home in the last 12 months. Figure 13 shows over a third have worked more that 21-50 miles from their permanent home (35%). Furthermore, just over half (51%) have worked more than 50 miles away from their permanent home, with 23% working 51-50 miles away and 28% working more than 100 miles away.

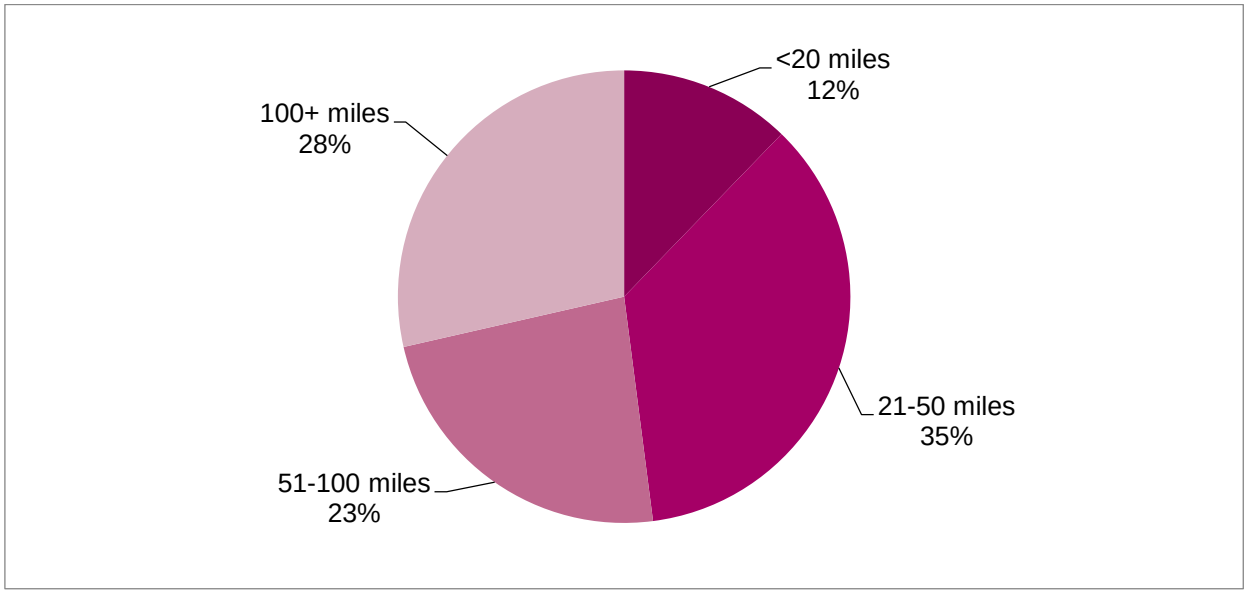


Figure 13: Furthest distance worked in the past 12 months (CITB, 2015)

The average (mean) distance from workers current residence (taking into account temporary residence) to their current site was 20.5 miles, for the North West, slightly lower that the UK average of 22 miles. This indicates workers in the North West display willingness to travel some distance to work, this is likely to be intermittent.

5.5. SITE DURATION AND CHANGE

In order to get a measure of workplace stability, workers were asked to indicate how long in total they expect to continue working at their current site of work.

Around a fifth of all construction workers in the North West (21%) do not expect to work on that site for more than a month, including 5% that only expect to be there for about a week or less. A quarter expect to stay on that site for a year or longer (23%), which is a significant increase compared with 2012 (6%), suggesting more stable employment than in 2012. However in a further one quarter of cases (27%) workers did not know how much longer they could expect to be on site.

More than three quarters of all construction workers in the North West are confident that when they finish this job they will get a job that allows them to travel from their permanent home to work on a daily basis (79%).

5.6. SUB-SECTOR AND SECTOR MOBILITY

All construction workers were asked which types of construction work they have spent periods of at least 3 months at a time working in.

Compared with 2012 there has been a significant increase in the proportion of construction workers that have been working on new housing within the North West; up from 72% to 93%. For all other types of projects the proportion of construction workers that have worked on them has fallen since 2012.

In the North West, two fifths of all construction workers have only worked on one project type (43%), compared with a fifth in 2012 (21%), which again suggests a pattern of increased stability in the sector.

5.7. LEAVING THE SECTOR

In order to assess the potential outflow from the sector in the next five years (led by worker preference), all workers were asked how likely it is that in 5 years' time they will still want to be working in construction. Within the North West, half the construction workers say they definitely will be (51%); a further third think it is very or quite likely (33%); 4% consider it unlikely; just 2% say they definitely won't be and a further 5% hope to be retired by then, while 5% don't know.

Excluding those aged 60 and over (as those over 60 may be assumed to be considering retirement in the next 5 years): 52% believe they will definitely want to be working in the construction sector, 22% believe it is very likely they will want to be working in the construction sector and 11% believe it is quite likely they will want to be working in the construction sector. Only 7% think on any level that they will not want to be working in the construction sector in five years' time which is less than in 2012 (15%).

5.8. THE IMPACT OF BREXIT

While the issue of leaving the EU is of particular interest to the UK construction industry, it is impossible to offer with any certainty predictions of what may happen or how it will affect the local economy and construction, CITB has published a review that considers some potential implications for UK construction.

MIGRATION AND CONSTRUCTION: The view from employers, recruiters and non-UK workers

5.9. MODERN METHODS OF CONSTRUCTION AND DIGITAL SKILLS

In initial consultation, stakeholders enquired about the potential of modern methods of construction, offsite and modular construction to help address the need to build more new housing. Stakeholders have also enquired about the opportunities presented by digital technologies.

Digital technologies are hoped to open up opportunities to simplify and automate some tasks and enhance productivity. However there is no simple description or common understanding of an ever expanding list of new technologies with a multitude of applications. Some have already been adopted and have quickly become normalised – notably in surveying, in design and in the way that smart mobile telecommunications have enabled the sharing of information and enabled remote working. But the benefits have tended to be for professional roles and very large projects.

Building Information Modelling (BIM) is increasingly referred to, and visualisation and design tools are slowing being adopted. Future opportunities may include better analysis and application of data and the integration of multiple technologies. The CITB report Unlocking construction's digital future: A skills plan for industry goes some way to describe the developing technological landscape and where opportunities may be.

While no specific analysis has been undertaken to consider the specific opportunities and limitations associated with the LEP area, CITB has published a report that provides a timely assessment of how the adoption of offsite is changing the skills and training landscape for construction. This report is available on the CITB website.

Faster, Smarter, More Efficient: Building Skills for Offsite Construction

5.10. BARRIERS AND OPPORTUNITIES FOR PEOPLE ENTERING THE CONSTRUCTION INDUSTRY

Recruiting and retaining a sufficient talent pool has been one of the key challenges for the construction and built environment (CBE) sector for years. The challenge of finding and training the next generation of construction workers is immediate and pressing. CITB's 2017 White Paper considers:

- The value vocational qualifications offer to both individuals and employers in construction
- What happens to those leaving FE after completing a construction related course, and how many end up working in the sector
- The reasons people leave construction jobs or apprenticeships early.

Achievers and leavers: barriers and opportunities for people entering the construction industry

6. THE DIFFERENCE BETWEEN DEMAND AND SUPPLY

6.1. MAIN POINTS

The occupations for which there appears to be the greatest risk of a shortfall between anticipated peak demand and the estimated supply of workers are:

Among professional and managerial roles:

- Architects

Among skilled trades:

- Civil engineering operatives
- Painters and Decorators
- Plasterers
- Building Envelope Specialists
- Glaziers
- Specialist Building Operators

Before looking at demand for construction compared with supply of construction workers, it should be noted that the Glenigan dataset used to produce the demand view is based on projects that are picked up at various stages of the planning process. As such there will be projects in the pipeline that may not go ahead or be subject to delay; additionally there will be newer projects that will be added to the list. In this respect the view is essentially a snapshot of what potential work could look like.

It is also important to note that the demand calculations are based on data covering the Cheshire and Warrington area, whereas the supply figures are an extrapolation of data for the North West Region.

When looking forward, there will be less visibility on future projects for work that requires shorter planning times. Research carried out by CITB on behalf of UK Contractors Group UKCG showed that the lead time from planning to work starting on site varied by the type of work and value. Large scale infrastructure and commercial projects take the longest time whereas lower value work in general, along with work in the industrial sector, is able to get on site quickest.

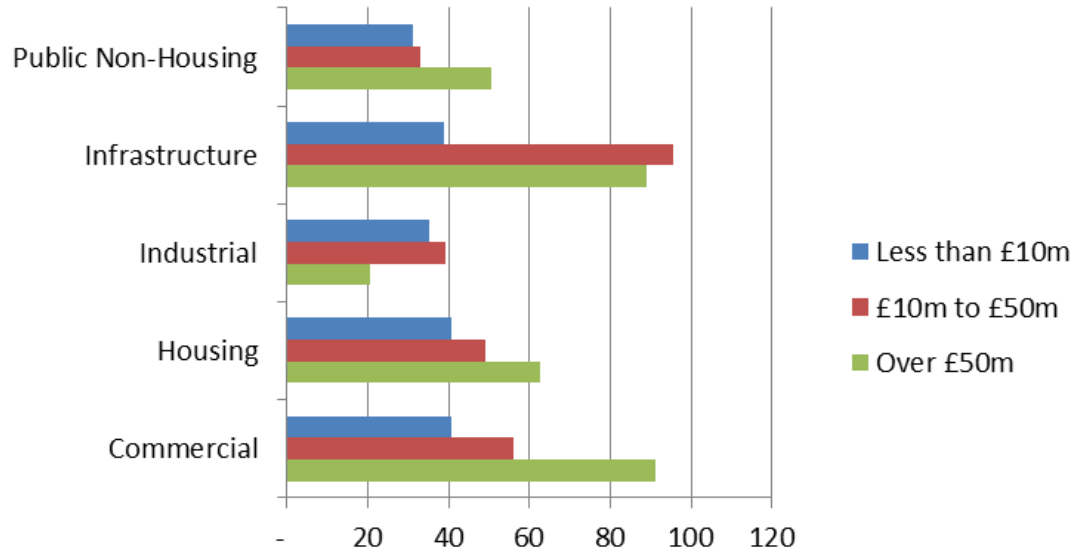


Figure 14: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan)

There will also be work carried out that does not require planning permission, for example household repair and maintenance (R&M) work, and this can account for a significant share of work in the construction sector. Current estimates for R&M work in the North West indicate that it accounts for 34% of yearly construction output[3].

Also, whilst different types of projects can be categorised by their type of build, such as housing, commercial or industrial, the workforce skills required are less easy to categorise in the same way as some occupations will be able to apply their skills across a number of sectors. For example, evidence from the 2015 Mobility research shows that occupations such as banksmen / bankspersons, labourers/general operatives, roofers and bricklayers are most likely to have only worked on one project type, while site managers and painters and decorators are more likely to have worked on a wider range of projects[4].

[3] CITB (2018) Construction Skills Network – North West

[4] CITB(2015) Workforce Mobility and Skills in the UK Construction Sector – North West

6.2. GAP ANALYSIS

With current construction employment in the Cheshire and Warrington area estimated at just under 40,000, the identified demand forecast for 2018 accounts for 87% of current employment, before reducing in later years as current visibility for future identified projects decreases. Employment and demand by occupation for 2018 is shown in Table 14.

Table 14: Occupational breakdown of demand for Cheshire and Warrington area against current employment

Occupation	Cheshire & Warrington 2018 Demand	Risk rating: shortfall 2018
SKILLED TRADES		
Civil engineering operatives nec*	340	2.05
Painters and decorators	1750	1.26
Building envelope specialists	1370	1.24
Glaziers	460	1.22
Specialist building operatives nec*	850	1.10
Plasterers & dry liners	700	1.09
Logistics	310	1.00
Bricklayers	1010	0.92
Wood trades and interior fit-out	3300	0.90
Roofers	700	0.87
Steel erectors/structural fabrication	280	0.86
Plumbing and HVAC Trades	2060	0.85
Labourers nec*	1880	0.84
Floorers	400	0.83
Scaffolders	350	0.82
Electrical trades and installation	2450	0.78
Plant mechanics/fitters	510	0.78
Plant operatives	500	0.77
PROFESSIONS		
Architects	520	1.04
Construction trades supervisors	680	0.99
Civil engineers	660	0.97
Senior, executive, and business process managers	2300	0.97
Construction project managers	623	0.89
Surveyors	780	0.85
Other construction process managers	2490	0.83
Other construction professionals and technical staff	2130	0.70
NON-CONSTRUCTION ROLES		
Non-construction operatives	450	0.86
Non-construction professional, technical, IT & office-based	4630	0.85
TOTAL	**34,480**	**0.89**

Source: CITB/WLC

Note: nec*: not elsewhere classified; HVAC: Heating, ventilation and air-conditioning.

Table 14 shows that there are some possible disparities where demand is expected to outstrip the current estimates for employment available locally. These occupations show high relative gap in comparison with other occupations.

The gap analysis compares the number of workers calculated as being required to meet the peak construction demand (as described in the demand section of this report) with the number of workers estimated as being available in the Cheshire and Warrington area (as described in the supply section of the report). This gives an indication as to the comparative risk of a shortfall between construction occupations.

Those occupations highlighted:

- **RED** – [Top quartile] are at high risk of an immediate shortfall of workers and are worthy of urgent consideration for action to increase numbers of skilled workers.
- **AMBER** – [Second quartile] appear to be at risk of a shortfall and should be reviewed to determine where opportunities for further training and development exist
- **BLUE** – [Third quartile] do not appear to demonstrate an immediate risk of a shortfall but should be monitored and tested to compare with local qualitative opinions.
- **GREEN** – [Bottom quartile] appear to be at low risk compared with other occupations. This does not mean changes in construction demand, training provision or the movement of workers will not change this status and so monitoring is recommended.

Those occupations at risk appear most likely to be:

Among skilled trades:

- Civil engineering operatives
- Painters and Decorators
- Plasterers
- Building Envelope Specialists
- Glaziers
- Specialist Building Operators

Among professional and managerial roles:

- Architects

6.2.1. Construction specific occupations

Demand for Architects (as well as Civil engineers and Surveyors) is a reflection of the wider UK shortage[5]. Additionally as professionally qualified occupations, which tend to require degree qualifications, there will be at least three years of education and training before becoming qualified plus years more to gain experience. And if new candidates are to be attracted to join these professions, it is likely that encouragement is required some years before they start training.

It is therefore highly likely that the short-term demand increase identified would require workers to be drawn into the Cheshire and Warrington area from the wider North West region and beyond.

It should also be noted that for some professions workers often have an office location away from the site location and travel between them. And for some, there is anecdotal evidence to suggest that demand is met by provision based in other centres of population.

In addition to the major projects identified in the Glenigan Pipeline, there will also be other work carried out in the Cheshire and Warrington area that is captured within the demand analysis where additional workers will be required. This additional work includes projects that are less than £250,000, as well as repair and maintenance work that does not require planning consent, and as noted earlier, this is expected to mean a total workforce demand of just under 40,000 in 2018.

This is quite a static level of future work that would account for around 87% of current employment, which indicates that future employment demand in most cases will be focused on replacing the current workforce levels and equipping them with appropriate skills, rather than an overall increase in demand.

[5] Migration Advisory Committee (MAC) Shortage Occupation List 2015

6.3. GAP ANALYSIS – LONG TERM

When looking at the longer term past 2018, the amount of known work in the area decreases. To give a view on the gap analysis across the wider range of work and over the longer term, Table 15 details the annual Average Recruitment Requirement (ARR) reported within the wider North West CSN 2018-2022 report which can be used to give an indication of long term demand in the Cheshire and Warrington area, based on the assumption that Cheshire and Warrington will face similar long term demands to those of the North West region as a whole. However, as the Cheshire and Warrington area makes up only 14% of the North West's construction workforce, this should only be used as a long term indication.

[The 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. 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.]

Table 15: Occupational breakdown of ARR for North West region as a whole (Source: CITB)

Occupation	2016 Employment (North West)	ARR 2018-2022 (North West)	ARR as % of Current Employment
Wood trades and interior fit-out	26,358	640	2.4%
Other construction process managers	21,357	550	2.6%
Electrical trades and installation	22,467	510	2.3%
Non-construction prof, tech, IT, and other office-based staff	39,054	510	1.3%
Plumbing and HVAC Trades	17,235	500	2.9%
Labourers nec*	15,965	460	2.9%
Bricklayers	7,803	380	4.9%
Plasterers	4,627	240	5.2%
Painters and decorators	9,896	190	1.9%
Civil engineers	4,873	180	3.7%
Senior, executive, and business process managers	16,899	180	1.1%
Building envelope specialists	7,874	150	1.9%
Plant operatives	4,607	140	3.0%
Construction Trades Supervisors	4,872	130	2.7%
Roofers	5,756	130	2.3%
Other construction professionals and technical staff	21,578	110	0.5%
Logistics	2,238	100	4.5%
Plant mechanics/fitters	4,691	90	1.9%
Glaziers	2,697	80	3.0%
Civil engineering operatives nec*	1,196	60	5.0%
Steel erectors/structural fabrication	2,370	60	2.5%
Floorers	3,464	<50	
Non–construction operatives	3,772	<50	
Construction Project Managers	5,027	-	
Specialist building operatives nec*	5,545	-	
Scaffolders	3,059	-	
Architects	3,582	-	
Surveyors	6,588	-	
North West	275,450	5,390	2.0%

Note: nec*: not elsewhere classified; HVAC: Heating, ventilation and air-conditioning.

RAG rating: Red highlights those occupations where ARR as a % of current employment exceeds 2.5% (i.e. the point where we would no longer expect an increase in demand to be covered by normal workforce flows) and also those occupations where the ARR in volume terms is high

The CSN 2018-2022 ARR is consistent with the earlier analysis in identifying a requirement for:

- Civil engineering operatives
- Plasterers
- Glaziers

The CSN 2018-2022 ARR also identifies some other occupations with a high requirement, these occupations are:

- Other construction process managers
- Plumbing and HVAC trades
- Labourers
- Bricklayers
- Civil engineers
- Plant operatives
- Construction trades supervisors
- Logistics
- Steel erectors/structural fabrication

Logistics are likely to have skills that can be transferred over a range of industries so there will be a wider pool of potential recruitment to draw from across the wider region.

For civil engineers, plant operatives, construction trades supervisors and steel erectors/structural fabrication the ARR as a percentage of current employment is notably above the regional average at 3.7%, 3.0%, 2.7% and 2.5% respectively, which indicates potential occupational pressure to meet forecasted demand.

6.4. GAP ANALYSIS – TRAINING NEEDS

Looking at the future demand against current competence based training, there are two aspects:

- Is there training in the areas of potential demand?
- Is there the volume of training required across the spread of occupations?

Taking the first of these, 'is there the training in the areas of potential demand?' both the demand analysis and CSN has identified civil engineering operatives, plasterers and glaziers as those occupations in greatest demand, with the demand analysis alone also identifying Architects, painters and decorators, building envelope specialists and specialist building operatives.

For Architects, much of this demand would typically be met from graduate level recruitment which would not be restricted to supply from within the Cheshire and Warrington area therefore, a training needs analysis specific to the Cheshire and Warrington area is unlikely to give credible views.

There is a good volume of training provision for both civil engineering operatives and glaziers in Cheshire and Warrington (24% and 18% of the total for the North West respectively, both above the 11% average for all competence qualifications). Further work would have to be carried out to determine the extent to which specialist skills in these areas would match future demand, however at the moment the view would be that there is training capability to meet demand.

There is reason to be slightly more concerned with regards to painters and decorators, plasterers building envelope specialists and specialist building operatives where competence qualification achievement volumes are low and Cheshire and Warrington's share of total competence qualification achievement volumes in the North West is also comparatively low – just 9%, 8%, 6% and 5% respectively. Apprenticeship starts are also low for these occupations, at just 20 or less in 2015/16.

The second question "is there the volume of training required across the spread of occupations?" is a mixed response as there would appear to be:

- Provision for training across the range of occupations
- A core of providers who deliver the majority of training
- Good provision of competence qualifications for certain occupations, most notably , plant operatives, wood trades and interior fit-out, electrical trades and installation and plumbing and HVAC trades who between them account for approximately half (49%) of all competence qualifications.

However:

- There are occupations, such as floorers, roofers, construction trades supervisors, and steel erectors/structural fabrication, and as mentioned above, painters and decorators, specialist building operatives, building envelope specialists and plasterers, where the levels of competence based training appear to be lower than we would expect.

As a whole, the Cheshire and Warrington area is showing a decrease in the number of construction learner starts of -15% across the four years. However, countering this decline has been a 20% increase in the number of apprenticeship starts between 2012/13 and 2015/16. Whilst the college based courses are an important stepping stone or progression route for learners to acquire knowledge, construction employers tend to have a preference for practical or competence based skills, so it is positive that the area has witnessed this increase in apprenticeships over these four years.

7. CONCLUSIONS AND RECOMMENDATIONS

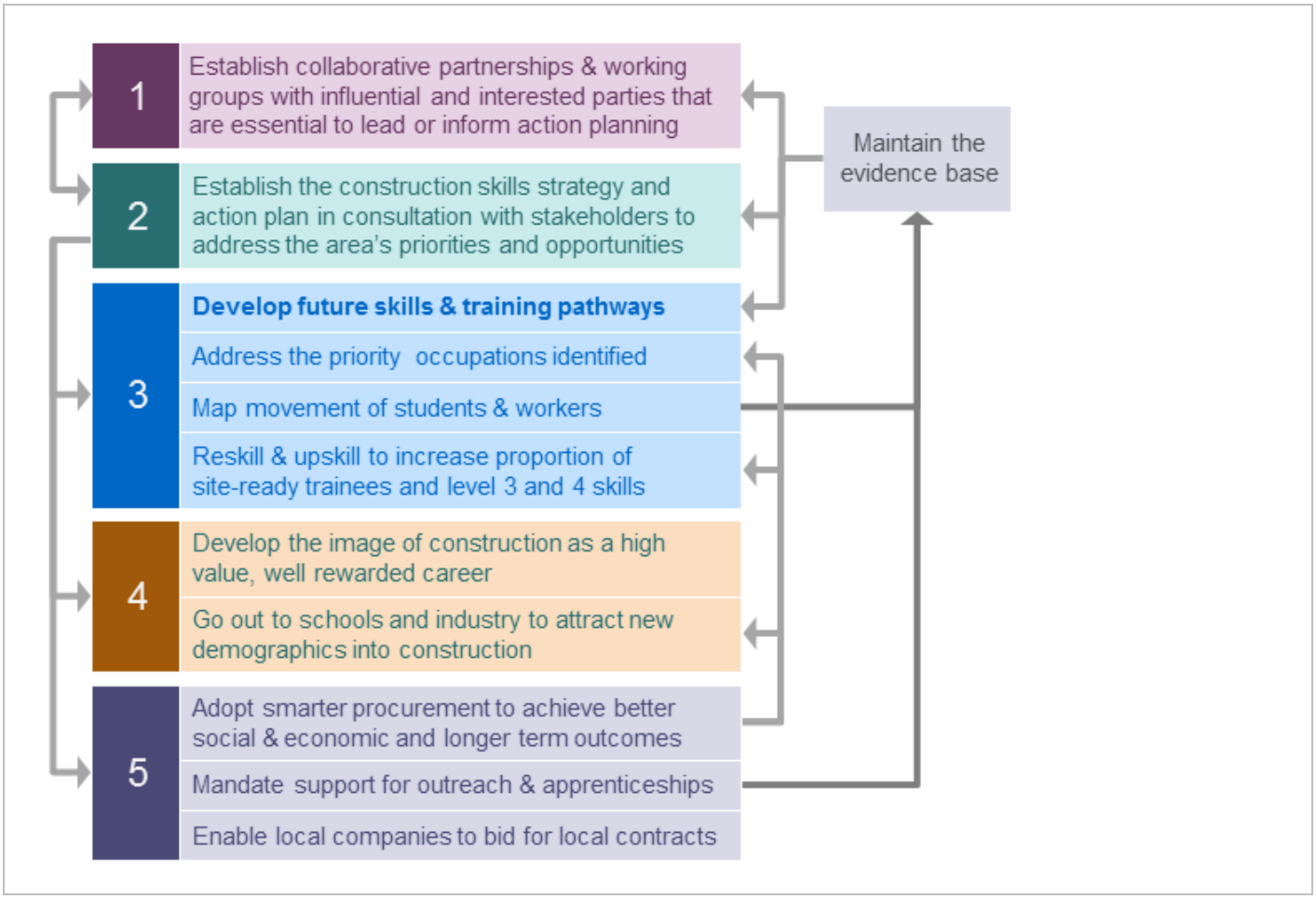
The aim of the Cheshire & Warrington local authorities and other stakeholders should be to achieve progress in addressing the long term and immediate challenges that the construction industry faces in the area. Balancing the supply of construction workers and skills against future demand and ensuring that a well-qualified workforce is in place is likely to be assisted by the local authorities encouraging collaboration between influential local stakeholders. Positive progress is likely to be the result of a succession of incremental and interlinked actions undertaken by organisations working towards common goals.

There is some evidence to suggest that the Cheshire & Warrington area will suffer a shortage for some critical construction occupations. While these may be drawn in from others areas, it seems more likely that any net effect will be for workers to be drawn to other neighbouring areas of population and so the risk of inadequate local skills is that construction may be delayed or increase in price, inhibiting the achievement of local social and economic goals.

There are five integrated recommendations that follow a logical progression.

ACTION PLANNING

It is the responsibility of the local authorities and their influential stakeholders to review the recommendations, develop a strategy and agree an action plan to address the construction challenges and opportunities that exist in the Cheshire & Warrington area. The local authorities need not deliver the action plan but need to take a leading role in co-ordinating and overseeing or delegating action and monitoring progress



7.1. COLLABORATIVE PARTNERSHIPS

7.1.1. Conclusion

It will be essential to ensure that those interested in construction and with an influence over outputs and construction skills in the Cheshire & Warrington area work together.

There will be significant opportunities to work together to: align better the training delivered with the needs of construction employers; to find new opportunities for drawing people into construction related careers and to deliver action that addresses the following recommendations.

7.1.2. Recommendations

a. The local authorities should ensure that relevant stakeholders and influencers are engaged. Share available evidence with them with a view to building collaborative action plans. Points of common interest should be established to encourage these stakeholders to input to, and take ownership of, the construction skills actions. This will maintain a sense of shared ownership of the challenges, priorities and solutions. Those stakeholders should include: local construction businesses; major employers; local authorities; developers; housing associations; those responsible for managing infrastructure (transport and utilities); construction training providers, local influencers and universities.

b. Early on, establish a construction working group comprising those with a remit to develop, or influential in, the built environment in the Cheshire & Warrington area and neighbouring areas and task it with delivering outputs that achieve the local authorities' desired social and economic outcomes. This should take ownership of 7.2 below.

c. Longer term projections and the development of scenarios may enable an assessment of the potential impacts of major initiatives that may skew demand. In particular, the local authorities will have commitments to maintain the provision of new housing. However, there is already demand for and an apparent shortage of site based housing construction skills. Scenario planning and actions around skills pathways and career development should, in response, focus on delivering appropriate levels of high quality training to meet the future demand for site based trades (see related recommendations below).

d. Identify demographic data available and associate actions with opportunities for target candidates where the greatest potential social and economic impact can be gained by addressing occupational shortfalls or other priorities.

e. Establish processes whereby those responsible for: setting local regulation and funding developments can agree with construction suppliers holistic outcome-based approaches for tackling social and economic opportunities. This might consider moving towards a balance of awarding contracts based on good value for money and achieving wider benefits linked to: the built environment; training; support for apprenticeships; outreach; etc. This links to requirements outlined in the *Public Services (Social Value) Act.*

7.2. SKILLS STRATEGY: ACTION PLANNING AND EXPLOITATION

Establish (or develop) a Cheshire & Warrington stakeholders area construction skills strategy and action plan which recognises collective and potentially unique actions and solutions that may be required in and across each of the three local authority areas.

7.2.1. Conclusions

An ambition to develop construction skills and training pathways should be to match training and development with the needs of employers and the local economy. In support of this ambition, further understanding is needed of where the potential sources of people are to meet the needs of the Cheshire & Warrington stakeholders area and what the end-to-end skills and training pathways are that need to be in place to enable improved flows of people and skills supply to meet demand. These pathways may potentially include localised initiatives supporting training needed by particular people groupings preparatory to and post more formalised elements of the pathway.

In the area around 90% of Further Education (FE) training is provided by ten providers; so the greatest potential impact is through mediated collaboration with and between the FE colleges.

The majority of training provision is at low levels that are a necessary step in an individual's development but often are insufficient in meeting the needs of employers. A common complaint of construction employers is that new

starters are not often enough site ready so opportunities might include colleges and employers working together to enhance new starters' site readiness and behaviours.

Also, construction employers have expressed concern that often those newly qualified and having gained site access through a CSCS card or similar are not equipped with the variety of skills required – these might include general competencies such as numeracy, literacy, timekeeping, productivity, interpersonal skills.

This suggests a need to work with colleges, employers and graduating students to help ensure that a greater proportion move into appropriate additional and vocational training and the career for which they have a qualification.

Cognizance of demands from neighbouring areas
In comparison with the large metropolitan areas of Manchester and Liverpool, Cheshire and Warrington's risks of shortages appear less significant. However this suggests that the area is probably a net exporter of workers to these neighbouring areas and so the risks of shortages remain significant.

7.2.2. Recommendations

a. Develop the Cheshire & Warrington stakeholders construction skills strategy along with an action plan that ensures that priority is given to trades and professions highlighted in this report as being:

- In high demand AND at high risk of a shortfall.
- In high demand
- At high risk of a shortfall

Priority occupations

The report identifies occupations for which there is relatively high demand AND a risk of a shortfall.

- Wood trades & interior fit out
- Painters & decorators
- Building envelope specialists
- Bricklayers
- Specialist building operatives
- Plasterers & dry liners
- Roofers

High demand site based trades

- Wood trades & interior fit-out
- Electrical trades & installation
- Plumbing and HVAC Trades
- Labourers
- Painters and decorators
- Building envelope specialists
- Bricklayers
- Specialist building operatives

High risk occupations

At risk of a shortage locally

- Civil engineering operatives
- Painters and decorators
- Building envelope specialists
- Glaziers
- Specialist building operatives
- Plasterers & dry liners
- Architects

b. Longer term projections and the development of scenarios may enable an assessment of the potential impacts of major initiatives that may skew demand. For example, the local authorities have stated in consultation the aim of maintaining the provision of new housing but there are apparent shortages in some occupations in demand by house builders. A recommended action is to establish whether this trend is likely to continue and if so ensure that training provision addresses future demand for occupations of relevance, in particular to house builders.

c. An early action plan should assess if employers are facing specific skills shortages or skills wage inflation and what short-term interventions can be activated to address them. If issues are identified, consideration should be given to pursuing funding that can be utilised to support delivery of new training interventions.

d. Early consideration should be given to those occupations that need to be site-based, for which demand cannot be met by office based roles that could be located outside the area.

Site based roles

While it is important to have sufficient provision of all construction roles locally, it is possible that in some cases the provision can be met from outside the Cheshire & Warrington area.

Many professional roles such as architects, surveyors and senior managers may only need to visit the construction site occasionally. There may also be roles that are more mobile that travel to the site for a short duration but can operative over a large area – for example plant or scaffolding

However there are many roles that can only operate on the construction site and for which local provision is essential. Examples of those roles – also particularly relevant in house building include:

Bricklayers; building envelope specialists; electrical trades and installation; floorers; glaziers; painters and decorators; plasterers & dry liners; plumbing and HVAC trades; roofers; wood trades and interior fit-out.

e. Identify demographic data available and associate, as far as possible, relevant skills and training pathways and actions with opportunities for those where the greatest potential social and economic impact can be gained by addressing occupational shortfalls or other priorities.

f. Develop a co-ordinated approach to training and skills development that, as far as possible, integrates the development of multiple skills to enhance the success rates of initial construction training. (See 7.3 below.)

7.3. DEVELOP FUTURE SKILLS AND TRAINING PATHWAYS

7.3.1. Conclusions

It is clear there is high demand for several construction occupations and so there will be continuing demand to train people in essential skills. There are also some apparent gaps between supply and demand where immediate action would help address shortfalls in the near future.

CITB has received anecdotal evidence that in some locations, colleges would like to support the provision of more apprenticeships but that employers are not always providing the opportunities.

There will also be a developing need for new skills to address new construction methods (e.g. offsite and modular build and the need for BIM applications.) [BIM is Building Information Modelling.]

The CITB report – 'Faster, Smarter, More Efficient: Building Skills for Offsite Construction' – provides an assessment of how the adoption of offsite is changing the skills and training landscape for construction.

The CITB report Unlocking construction's digital future: A skills plan for industry goes some way to try and describe the developing technological landscape and where opportunities may be.

7.3.2. Recommendations

a. By working together the major colleges can avoid duplication of effort or share resources, enhance specialisations and explore innovative ways of delivering the curriculum that meets employers' and students' needs.

b. The aims of this should be to: reduce the provision of under-subscribed courses; add provision for over-subscribed courses; add additional or enhance specialist courses to reflect the potential need for new construction skills and balance the provision of training with anticipated demand from the construction contractors locally.

c. A starting point may be to consider those occupations where there appears to be high demand and a high relative gap. An option is to pilot a range of solutions to test validity and effectiveness and achieve the most expedient solutions.

d. Action to address future skills needs should be incremental and take into consideration the delivery of training that supports construction industry needs – i.e. establish site ready proficient workers. Emphasis should be on ensuring that training leads to the provision of more competency based training and high quality sustainable apprenticeships.

e. Those interested in the Cheshire & Warrington area's future should review CITB's reports into digital technologies and future skills with a view to finding an exploiting opportunities to test or pilot new ways of working, with a view to enhancing knowledge, developing skills and ultimately finding productivity gains.

f. One potential opportunity may be to identify and facilitate how FE colleges and employers can engage with specialist training providers as well as with major projects, to establish greater provision to address:

g. A common complaint of construction employers, that is – new starters are insufficiently-often 'site ready' so a curriculum might include working with employers to enhance new starters' site readiness and behaviours.

h. Address any anticipated specific local needs and ensure that training delivers what employers need as part of a complete package of training initiatives.

i. This may involve establishing training pathways through which students can complete initial knowledge based training before progressing into vocational training and apprenticeships and gaining site experience (while finishing their training).

j. In the longer term there may also be opportunities for the local authorities to work with those colleges that offer Higher Education qualifications and Universities to consider how they can attract, train and retain the higher level, advanced and 'future' skills for which there appears to be demand and inadequate provision (across the UK). For example that may be in high demand for the many significant projects that are expected to proceed in the Cheshire & Warrington stakeholders area and further afield and that will increasingly need to utilise developing technology e.g. Building Information Modelling (BIM).

k. Consideration should also be given to building an understanding of the economic and transport inhibitors that may prevent people accessing training and apprenticeships. Are there options for ensuring that training is provided where it is accessible; that those with limited financial support can receive support with the provision of appropriate clothing and equipment or that there is assistance with transport to remote work sites. This is particularly relevant for remote and sparsely populated places.

7.4. OUTREACH: BUILD A MORE POSITIVE IMAGE OF CONSTRUCTION AND INCREASE RECRUITMENT THROUGH NEW ENTRANCE POINTS, CAREER CHANGERS AND RESKILLING.

7.4.1. Conclusion

Construction is sometimes associated with negative and inaccurate stereotypes that deter potential recruits, with education choices and career decisions often influenced in school and sometimes at a very early age.

It is increasingly clear that influences and preferences are established early in childhood and so it may be appropriate to build a positive profile of construction with children before the age of 11 as well as during secondary education and also with adults likely to be influential – parents, teachers and careers advisors.

7.4.2. Recommendation

a. With an anticipated long term demand for some skills, the potential exists for a schools outreach programme to build a positive perception of construction as offering high value rewarding careers and encourages applications for construction skills courses and apprenticeships from a broader spectrum of young people – in particular ethnic minorities and women.

b. There are further opportunities for outreach with those aged 16 and above, in particular those studying relevant STE(A)M subjects but who have not considered that they lead into interesting and rewarding careers in construction or supporting construction.

   [CITB has supported employers and other stakeholders across the construction and built environment to develop an industry led initiative called Go Construct (www.goconstruct.org). This initiative inspires individuals to find out more about the sector, to access an experience with employers from school engagement via the Construction Ambassador scheme and find work experience placements.]

c. There may also be more mature audiences that can be encouraged to move into construction careers. This may include people with relevant transferable skills (e.g. from manufacturing or ex-military see *Careers Transition Partnership*) or those where there is a significant social gain by ensuring they are in valuable employment, e.g. ex-offenders and so contact should be made with HM Prison Service. Novus Group and DWP. Targeted intervention should be included within the construction skills action plan.

d. There is an opportunity to maximise Go Construct and introduce other similar employer and local authority led initiatives to raise engagement between the local employers, educators and individuals from all backgrounds.

e. For the long term, Careers advice should engage very young audiences – i.e. pre-secondary education – to address early on negative stereotypes that may deter some groups from construction careers.

f. Early on careers advisors educators and parents should be targeted to change perceptions of construction among significant influencers.

7.5. USE PROCUREMENT AND PLANNING REGULATION TO ENABLE SKILLS DEVELOPMENT

7.5.1. Conclusion

Construction is delivered through construction employers and suppliers, funded by private developers as well as by local authorities and regulated by local planning authorities. These organisations are better placed to prepare for the future if they have certainty on construction plans and programmes. Small and micro companies, in particular, have limited ability to maintain the processes and people to search for local opportunities or enable collaboration to support larger projects.

Public bodies have a requirement under the Public Services (Social Value) Act to ensure procurement addresses wider social, environmental and economic benefits.

The opportunities for small and micro companies (with limited resources and means) to respond to complex requirements, or invest in delivering services outside a basic construction contract, are severely limited.

Larger suppliers have expressed the view that some problems encountered with section 106 agreements include that: they are poorly thought out in terms of delivering tangible benefits; rarely are developed with contractors and agreed outputs are not measured and reported against.

7.5.2. Recommendations

a. The potential exists through smarter approaches to procurement (including co-ordinated approaches to Section 106 agreements) to encourage those tendering for construction and infrastructure contracts or those funding developments to be mandated to include provision for recruitment, training, apprenticeships and outreach that is co-ordinated across the Local Enterprise Partnership area, to achieve both good value for money and wider social benefits.

b. Provision could be required to hold contractors to account for commitments made. Such an approach could be co-ordinated through the Cheshire & Warrington stakeholders and local authorities and be a requirement of planning applications and local authority and public sector contracts.

c. Early engagement with employers to discuss any such approach is recommended to find ways of ensuring that such requirements take into consideration the industry's needs and circumstances. (i.e. discuss wider social gains with potential suppliers well before tender documents are published).

d. Procurement of major contracts, or conditions of planning consent could mandate the sharing of supply and sub-contracting through a locally managed portal available to businesses based within the region.

e. Consideration of the use of smaller lots when procuring schemes and supporting access for small and medium sized employers onto frameworks and supply chains to enable them to grow their businesses which will build further delivery capacity across the Cheshire & Warrington stakeholders area.

f. The local authorities should develop their procurement practices to exploit the opportunities presented by the Public Services (Social Value) Act 2012 - that states that public sector commissioning must consider achieving potential: social, economic and environmental benefits when procuring public contracts as well as for connected purposes. This may include writing into tenders the need to deliver associated: employment, training, skills and careers development programmes.

7.6. MAINTAINING & ENHANCING THE EVIDENCE BASE

Utilise local qualitative knowledge and experience to inform the findings of this report. And use other sources of data available to help inform decision making. CITB publishes a range of research of relevance to the construction industry but other relevant information is also regularly published.

As part of this report, the Cheshire & Warrington stakeholders is given 12 months access to the Labour Forecasting Tool, including the source project data used to compile this report. This should be utilised as part of the action planning process to test scenarios, and to update and check the evidence base that supports decision making as circumstances change.

Ensuring that pipeline visibility assists the local industry in reducing risks such as economic instability or maintaining sustainable employment. The demand forecasts produced using data from Glenigan are the result of a snapshot at a moment in time and so it is wise to update demand at regular intervals according to the need and capability.

END

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Version	Date	Details of modifications
First draft	June 2018	First collated draft for consultation
V4	September 2018	Includes updated training data in main report to include 2016/17
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CITB Analysis

Construction skills gap analysis for the Cheshire & Warrington area

Appendices to the Construction skills gap analysis for the Cheshire & Warrington area

September 2018

APPENDIX CONTENTS

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APPENDIX A. DEMAND ANALYSIS METHODOLOGY

Introduction

The Construction Skills Network (CSN) provides labour market intelligence for the construction industry. Developed by Experian on behalf of CITB it forecasts labour demand in each of 12 UK regions and provides forecasts of how the industry will change year on year. It is not designed however to predict labour demand at a sub-regional level. For this purpose, we use our prize-winning Labour Forecasting Tool (LFT) developed on behalf of CITB. Labour demand is calculated by converting the volume of construction activity forecast to take place in any geographical region into forecast labour demand using labour coefficients (the number of person years required to produce £1m of output). For the sake of consistency with ONS terminology the 'volume of activity' is referred to as 'output' throughout this report. The following sections describe:

- the sources of data we use;
- how the output is calculated;
- how we deal with the absence of comprehensive data that is the typical situation beyond the first year or two of our analysis;
- how we reconcile any differences between the results produced by the LFT and those produced by the CSN;
- the steps we take to deal with any shortcomings in the sources of data; and
- how the LFT converts output into labour demand.

Calculating construction output

Data sources

There are two principal sources of data: the Glenigan database and the National Infrastructure and Construction Pipeline (NICP).

Glenigan

The original purpose of the Glenigan database is to allow contractors to identify leads and to carry out construction market analysis. It is updated every quarter to provide details of planning applications from local authorities supplemented with additional project-specific data. Of particular relevance to this report, it provides a description of each project, its name, location, value, and in most cases, projected start and end dates. It contains many tens of thousands of projects. The Glenigan pipeline does not identify every single project in an area: projects which are small (typically but not exclusively those less than £250,000 in value), and most that involve repair and maintenance are not included.

We have used the latest available cut of Glenigan data including all the relevant projects which started before 2017 but excluding those which are already complete. We have included in our analysis only those projects shown to be at the following planning stages because there is a reasonable probability that these projects will be realised in practice.

- Planning not required
- Detail plans granted
- Reserved matters granted
- Application for reserved matters
- Plans approved on appeal
- Listed building consent

The values of some infrastructure projects given in the Glenigan database are the total value of construction and engineering works. In these cases, since the scope of this study is limited to the construction sector, an estimate of the engineering value has been calculated and subtracted from the total value. This provides what we have termed the construction value. The percentages applied to the total value of each infrastructure project type to derive the construction value are shown in Appendix Table 1. The construction/engineering proportions have been validated through work we have undertaken for other clients and have been used in the production of Infrastructure UK's National Infrastructure Plan for Skills and the Construction Skills Network forecasts.

An initial review of the projects in the pipeline is carried out to ensure that only projects which have (a) a defined value and (b) defined start and end dates, are considered in the analysis, and that no projects are duplicated. For example "major leads" and "frameworks" may include smaller projects that are separately identified in the database.

Because of the size of the database, it is impossible to review the details of every project. Instead, we identify the small number of projects that represent the greatest value, the so-called significant projects. To do this, we use the Mean Value Theorem developed at the University of Dundee which states that maximum information from any set of data is obtained simply by considering the data whose value is greater than the average. This is a version of the Pareto rule which suggests that 80% of the value in a data set is contained within the 20% of items whose value is the greatest. The significant projects are then thoroughly inspected to make sure that the information reported in the Glenigan database is consistent and accurate as far as can be ascertained. Any anomalies are resolved, if necessary by returning to the source of the data. Since this process typically picks up the projects whose value represents 80% of the total, the scope for any errors in the remaining data to have a significant impact is severely limited.

Appendix Table 1: Proportion of total value related to construction

Infrastructure type	Sub-type	Construction value as a proportion of total value
Flooding	Flooding	90%
Transport	Bridges	100%
	Road tunnel	100%
	Roads	100%
	Air traffic control	100%
	Airports	100%
	Ports	90%
	Stations (underground/Network Rail)	80%
	Mixed rail	55%
	Electrification	35%
	Underground/DLR (not incl. stations)	35%
	Rail maintenance	10%
	Trams	55%
	Contactless ticketing	20%
Water	Water/wastewater treatment works	90%
Communications	Broadband/Digital infrastructure	20%
Energy	Photovoltaics	80%
	Generation (biomass)	50%
	Generation (energy from Waste)	50%
	Generation (nuclear)	50%
	Undefined electricity generation	40%
	Generation (fossil fuel)	25%
	Generation (renewables - offshore)	20%
	Generation (renewables - onshore)	10%
	Gas Transmission/distribution	30%
	Electricity transmission/distribution	25%
	Interconnectors	20%
	Nuclear decommissioning	60%
	Smart meters	0%
	Oil and gas	10%
Mining	Mining	80%
General infrastructure	General infrastructure	100%

For the significant projects, the project descriptions in the database are assigned the most appropriate project type to be used when the data is input to the LFT (each type is driven by a different underlying model). Cases where a project consists of more than one type are broken down into multiple forecasts which are assigned specific project types to more closely predict the labour demand. This takes account of the different types of work which may exist within a single project, e.g. mixed developments comprising residential, commercial and industrial buildings. For the non-significant projects, the default project type defined in the Glenigan pipeline is applied.

In order to maintain consistency with the CSN we have limited our forecast to the same time period as the most recently published CSN forecast.

NICP data

The Infrastructure and Projects Authority (formerly Infrastructure UK and Major Projects Authority) compiles a pipeline of UK infrastructure and construction projects and the associated annual public and private investment.

We examine the NICP data to identify infrastructure projects or programmes of work taking place in the region under consideration that are not included in the Glenigan database. The construction cost is calculated from the total cost reported in the NICP using the percentages in Appendix Table 1. Projects in the Glenigan dataset and the NICP are combined (ensuring that there is no double counting) to create a pipeline of 'known' projects for the area. We have only considered those projects which are specifically allocated to the region under consideration in the NICP (i.e. projects at a national level have not been considered).

The pipeline includes both construction and infrastructure projects but for the purposes of this analysis we have included only projects which are clearly defined specific projects rather than regional programmes of work. This reduces the risk of double counting in the Glenigan data.

CSN data

The CSN model produced by Experian also uses Glenigan as a major source of data relating to the volume of construction activity in the UK. Experian supplement the Glenigan data with market intelligence collected by a variety of means including a series of 'Observatories' held every six months in each region, at which representatives of the industry are invited to comment on the validity of Experian's data and findings. In Experian's annual CSN report, their estimate of the output in each of the following sectors is published:

- Public housing
- Private housing
- Infrastructure
- Public non-housing
- Industrial
- Commercial
- Housing repair and maintenance
- Non-housing repair and maintenance

Aligning the Glenigan pipeline with CSN output

The following process is undertaken to ensure that the value of work in the Glenigan pipeline is aligned with output as measured by the CSN.

6. Considering the government region within which the research area lies, identify only the new build in the known projects by removing all repair and maintenance projects.
7. Compare the output identified in the known projects as new build at the regional level with the CSN new build at the regional level sector by sector e.g. residential, non-residential, infrastructure etc.
8. If in any sector the known new-build regional output for the peak year is more or less than that forecast by the CSN for the same year then the value of each new build known project is factored by the following ratio:

$$\frac{Value\ of\ CSN\ new\ build\ at\ regional\ level\ for\ given\ sector}{Value\ of\ known\ new\ build\ projects\ at\ regional\ level\ for\ given\ sector}$$

The outputs calculated in this way are referred to as 'factored new build outputs'

This process takes account of both projects (typically less than £250k in value) not included in the known projects and those whose value or probability of realisation is over-optimistic.

9. To take account of housing repair and maintenance (R&M) at the research area level, it is assumed that the proportion of the total output represented by housing R&M is the same at the local authorities level as it is at the regional level in the CSN. The Glenigan new build factored housing output is therefore multiplied by the following ratio:

$$\frac{Value\ of\ CSN\ housing\ R\&M\ at\ regional\ level}{Value\ of\ CSN\ new\ build\ housing\ at\ regional\ level}$$

to derive the output in housing R&M to be added to the factored new build output

10. The non-housing R&M to be added to the factored new build non-housing output is calculated in a similar way.

Dealing with the 'cliff edge'

As the time horizon extends there is less clarity on what is planned. As a result, the number of known projects declines the further into the future we look. This apparently declining workload is highly unlikely to reflect the total amount of work that will take place in the future. It is almost certain that there will be additional projects that come on stream which are yet to be identified. To overcome this 'cliff edge' effect we assume, based on an analysis of historical data, that the future workforce is approximately equal to the peak. It should be noted that the peak labour demand refers to the current "snapshot" of the scheduled construction spend. It is prudent to expect that, should the investment in future years follow the same pattern, the peak labour demand figures are likely to be roughly similar assuming the mix of projects remains consistent. The peak has, therefore, been projected forwards and backcast to create a more likely scenario of the ongoing workforce. The employment growth rate is based on the CSN employment forecast for the whole region under consideration.

A consequence of this approach is the implicit assumption that the proportion of people in each occupation in the additional projects remain unchanged year on year.

Calculating total labour demand

Our Labour Forecasting Tool is used to determine the labour demand generated by the construction outputs in the peak year. The LFT can determine the labour demand generated by a pipeline of construction projects given only the project types, their start and end dates and their locations. It quantifies the month-by-month demand in each of the 28 occupational groups shown in Appendix B. To do this, it uses labour coefficients (person years to produce £1m of output) derived from historical ONS data. The labour coefficients are updated annually as new data becomes available, and indexed to take account of different locations and changes in prices.

There are different labour coefficients for each occupation and for each of the following project types:

- residential
- non-residential
- infrastructure
- residential R&M
- non-residential R&M

Infrastructure projects can be broken down into the types shown in Appendix Table 1.

APPENDIX B. OCCUPATIONAL DEFINITIONS

Reference is made in this report to a range of occupational aggregates for construction occupations. This appendix contains details of the 166 individual occupations which are aggregated into 28 occupational aggregates.

Appendix Table 2: Occupation definitions

Occupations included within construction occupational aggregates (Four-digit codes refer to Office for National Statistics Standard Occupational Classification Codes).	
1 Senior, executive, and business process managers[6]	
(1115) Chief executives and senior officials	(1162) Managers and directors in storage and warehousing
(1131) Financial managers and directors	(1259) Managers and proprietors in other services nec
(1132) Marketing and sales directors	(1139) Functional managers and directors nec
(1133) Purchasing managers and directors	(2133) IT specialist managers
(1135) Human resource managers and directors	(2134) IT project and programme managers
(1251) Property, housing and estate managers	(3538) Financial accounts managers
(1136) Information technology and telecommunications directors	(3545) Sales accounts and business development managers
(2150) Research and development managers	
2 Construction project managers[6]	
(2436) Construction project managers and related professionals	
3 Other construction process managers[6]	
(1121) Production managers and directors in manufacturing	(3567) Health and safety officers
(1122) Production managers and directors in construction	(3550) Conservation and environmental associate professionals
(1161) Managers and directors in transport and distribution	
(1255) Waste disposal and environmental services managers	
4 Non-construction professional, technical, IT, and other office–based staff (excl. managers)[6]	
(3131) IT operations technicians	(3541) Buyers and procurement officers
(3132) IT user support technicians	(3562) Human resources and industrial relations officers
(3534) Finance and investment analysts and advisers	(4121) Credit controllers
(3535) Taxation experts	(4214) Company secretaries
(3537) Financial and accounting technicians	(7129) Sales related occupations nec
(3563) Vocational and industrial trainers and instructors	(7211) Call and contact centre occupations
(3539) Business and related associate professionals nec	(7219) Customer service occupations nec
(3520) Legal associate professionals	(9219) Elementary administration occupations nec
(3565) Inspectors of standards and regulations	(2111) Chemical scientists
(2136) Programmers and software development professionals	(2112) Biological scientists and biochemists
(2139) Information technology and telecommunications professionals nec	(2113) Physical scientists
	(3111) Laboratory technicians
(3544) Estate agents and auctioneers	(3421) Graphic designers
(2413) Solicitors	(2463) Environmental health professionals
(2419) Legal professionals nec	(2135) IT business analysts, architects and systems designers
(2421) Chartered and certified accountants	
(2424) Business and financial project management professionals	(2141) Conservation professionals
	(2142) Environment professionals
(2423) Management consultants and business analysts	(2425) Actuaries, economists and statisticians
(4216) Receptionists	(2426) Business and related research professionals
(4217) Typists and related keyboard occupations	(4124) Finance officers
(3542) Business sales executives	(4129) Financial administrative occupations nec
(4122) Book-keepers, payroll managers and wages clerks	(4138) Human resources administrative occupations
(4131) Records clerks and assistants	(4151) Sales administrators
(4133) Stock control clerks and assistants	(4159) Other administrative occupations nec
(7213) Telephonists	(4162) Office supervisors
(7214) Communication operators	(7130) Sales supervisors
(4215) Personal assistants and other secretaries	(7220) Customer service managers and supervisors
(7111) Sales and retail assistants	(4161) Office managers
(7113) Telephone salespersons	

[6] Managerial, professional & office based staff

5 Construction trades supervisors[7]	
(5250) Skilled metal, electrical and electronic trades supervisors (5330) Construction and building trades supervisors	
6 Wood trades and interior fit-out[7]	
(5315) Carpenters and joiners (8121) Paper and wood machine operatives	(5442) Furniture makers and other craft woodworkers (5319) Construction and building trades nec (25%)
7 Bricklayers[7]	
(5312) Bricklayers and masons	
8 Building envelope specialists[7]	
(5319) Construction and building trades nec (50%)	
9 Painters and decorators[7]	
(5323) Painters and decorators	(5319) Construction and building trades nec (5%)
10 Plasterers[7]	
(5321) Plasterers	
11 Roofers[7]	
(5313) Roofers, roof tilers and slaters	
12 Floorers[7]	
(5322) Floorers and wall tillers	
13 Glaziers[7]	
(5316) Glaziers, window fabricators and fitters	(5319) Construction and building trades nec (5%)
14 Specialist building operatives not elsewhere classified (nec)[7]	
(8149) Construction operatives nec (100%) (5319) Construction and building trades nec (5%)	(9132) Industrial cleaning process occupations (5449) Other skilled trades nec
15 Scaffolders[7]	
(8141) Scaffolders, stagers and riggers	
16 Plant operatives[7]	
(8221) Crane drivers (8129) Plant and machine operatives nec	(8222) Fork-lift truck drivers (8229) Mobile machine drivers and operatives nec
17 Plant mechanics/fitters[7]	
(5223) Metal working production and maintenance fitters (5224) Precision instrument makers and repairers (5231) Vehicle technicians, mechanics and electricians	(9139) Elementary process plant occupations nec (5222) Tool makers, tool fitters and markers-out (5232) Vehicle body builders and repairers
18 Steel erectors/structural fabrication[7]	
(5311) Steel erectors (5215) Welding trades (5214) Metal plate workers, and riveters	(5319) Construction and building trades nec (5%) (5211) Smiths and forge workers (5221) Metal machining setters and setter-operators
19 Labourers nec[7]	
(9120) Elementary construction occupations (100%)	
20 Electrical trades and installation[7]	
(5241) Electricians and electrical fitters (5249) Electrical and electronic trades nec	(5242) Telecommunications engineers
21 Plumbing and heating, ventilation, and air conditioning trades[7]	
(5314) Plumbers and heating and ventilating engineers (5216) Pipe fitters	(5319) Construction and building trades nec (5%) (5225) Air-conditioning and refrigeration engineers
22 Logistics[7]	
(8211) Large goods vehicle drivers (8212) Van drivers (9260) Elementary storage occupations	(3541) Buyers and purchasing officers (50%) (4134) Transport and distribution clerks and assistants

[7] Skilled trades & operatives

23 Civil engineering operatives not elsewhere classified (nec)[7]	
(8142) Road construction operatives	(8123) Quarry workers and related operatives
(8143) Rail construction and maintenance operatives	
24 Non–construction operatives[7]	
(8117) Metal making and treating process operatives	(9249) Elementary security occupations nec
(8119) Process operatives nec	(9233) Cleaners and domestics
(8125) Metal working machine operatives	(9232) Street cleaners
(8126) Water and sewerage plant operatives	(5113) Gardeners and landscape gardeners
(8132) Assemblers (vehicles and metal goods)	(6232) Caretakers
(8133) Routine inspectors and testers	(9241) Security guards and related occupations
(8139) Assemblers and routine operatives nec	(3319) Protective service associate professionals nec
25 Civil engineers[6]	
(2121) Civil engineers	
26 Other construction professionals and technical staff[6]	
(2122) Mechanical engineers	(3119) Science, engineering and production technicians nec
(2123) Electrical engineers	(3121) Architectural and town planning technicians
(2126) Design and development engineers	(3122) Draughtspersons
(2127) Production and process engineers	(3115) Quality assurance technicians
(2461) Quality control and planning engineers	(2432) Town planning officers
(2129) Engineering professionals nec	(2124) Electronics engineers
(3112) Electrical and electronics technicians	(2435) Chartered architectural technologists
(3113) Engineering technicians	(3531) Estimators, valuers and assessors
(3114) Building and civil engineering technicians	(3116) Planning, process and production technicians
27 Architects[6]	
(2431) Architects	
28 Surveyors[6]	
(2433) Quantity surveyors	
(2434) Chartered surveyors	

APPENDIX C. GLENIGAN PROJECTS REMOVED FROM CHESHIRE & WARRINGTON

This appendix contains a list of all the Glenigan projects removed from the analysis, stating the reason for their exclusion.

Appendix Table 3: Removed Glenigan projects from Cheshire & Warrington

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	4 Flats & 1 Shop	Warrington	0.3			Missing dates
2	2 Industrial Units (Extension/Alterations)	Cheshire East	0.4			Missing dates
3	Cricket Club (Extension)	Cheshire West	0.5			Missing dates
4	10 Flats	Warrington	0.5			Missing dates
5	Caravan Park (Extension)	Cheshire East	0.5			Missing dates
6	10 Flats	Cheshire West	0.5			Missing dates
7	10 Flats & 1 Snookers Hall/Public House (Conversion)	Cheshire West	0.6			Missing dates
8	Pub (Extension)	Cheshire West	0.6			Missing dates
9	3 Industrial Units (New/Extension)	Cheshire West	0.6			Missing dates
10	Nursery (Extension/Alterations)	Cheshire East	0.6			Missing dates
11	Industrial Warehouse (Extension)	Cheshire East	0.6			Missing dates
12	College (Extension)	Cheshire West	0.6			Missing dates
13	6 Houses & 4 Flats (New/Conversion)	Cheshire East	0.6			Missing dates
14	13 Flats	Cheshire East	0.7			Missing dates
15	School Teaching Block (Extension)	Cheshire East	0.7			Missing dates
16	Village Hall	Cheshire East	0.7			Missing dates
17	14 Flats (New/Conversion)	Cheshire West	0.7			Missing dates
18	14 Flats (Conversion/Extension)	Cheshire East	0.7			Missing dates
19	Infrastructure Works	Cheshire West	0.7			Missing dates
20	Hotel (Extension)	Cheshire East	0.8			Missing dates
21	10 Houses	Cheshire East	0.8			Missing dates
22	7 Houses & 4 Flats	Cheshire West	0.8			Missing dates
23	11 Houses (Conversion)	Cheshire West	0.8			Missing dates
24	University (Extension/Alterations)	Cheshire West	0.8			Missing dates
25	Furniture Shop & Restaurant/Cafe (Extension)	Cheshire East	0.9			Missing dates
26	School (Extension)	Cheshire West	0.9			Missing dates
27	Waterways Marina	Cheshire East	1.0			Missing dates
28	Football Club Performance Centre (Extension)	Cheshire West	1.1			Missing dates
29	Hotel Bedrooms (Extension/Alterations)	Cheshire East	1.1			Missing dates
30	15 Houses	Cheshire West	1.1			Missing dates
31	15 Houses (Conversion)	Cheshire West	1.1			Missing dates
32	School (Extension)	Cheshire East	1.2			Missing dates
33	Demolition	Warrington	1.2			Missing dates
34	Offices	Cheshire East	1.2			Missing dates
35	Civic Hall (Extension)	Cheshire East	1.2			Missing dates
36	Church & Cafe	Cheshire West	1.5			Missing dates
37	Junction Upgrade Works	Cheshire East	1.5			Missing dates
38	Hub Building	Warrington	1.5			Missing dates
39	7 Retail/Trade Units & 1 Office (New/Extension)	Cheshire East	1.7			Missing dates

40	Industrial Unit	Warrington	2.0			Missing dates
41	Road Works	Cheshire East	2.0			Missing dates
42	School (Conversion/Extension)	Cheshire East	2.0			Missing dates
43	Retail Unit (Extension/Alterations)	Warrington	2.1			Missing dates
44	Hotel (Extension/Alterations)	Cheshire East	2.4			Missing dates
45	Sports Facility	Cheshire West	2.5			Missing dates
46	Sports Club	Cheshire West	2.7			Missing dates
47	Watersports Hub	Cheshire West	3.0			Missing dates
48	23 Flats & Restaurant (Conversion/Extension)	Cheshire West	3.5			Missing dates
49	Supermarket & Petrol Filling Station	Cheshire East	3.6			Missing dates
50	69 Houses/Bungalows/Flats	Cheshire West	4.5			Missing dates
51	7 Luxury Houses & 1 Hotel	Cheshire East	5.2			Missing dates
52	164 Student Flats	Cheshire West	10.0			Missing dates
53	Supermarket & Shops (Extension)	Cheshire East	14.0			Missing dates
54	Energy from Waste	Cheshire West	250.0			Missing dates
55	Wind Turbine Surveys	Warrington	5.0	18/02/2013	18/02/2018	Consultancy
56	Consultancy Framework	Cheshire East	3.8	26/01/2019	26/01/2023	Consultancy
57	Water/Waste Water (Framework)	Warrington	3,000.0	01/04/2015	01/04/2020	In the NICP
58	Water Treatment Works	Warrington	85.4	14/05/2018	13/05/2019	In the NICP
59	Engineering Services	Warrington	240.0	01/10/2014	01/10/2018	In the NICP
60	Consultant Framework	Warrington	120.0	06/04/2015	07/06/2021	In the NICP
61	Water & Wastewater Construction Framework	Warrington	110.0	01/04/2014	01/02/2020	In the NICP
62	Water Treatment Plant (Refurbishment)	Cheshire West	9.1	02/04/2018	22/04/2019	In the NICP
63	8 Retail/Restaurant Units	Cheshire West	4.5	05/11/2018	03/06/2019	Duplicate

APPENDIX D. SIGNIFICANT GLENIGAN PROJECTS IN CHESHIRE & WARRINGTON

This appendix provides a list of all the significant projects analysed. The projects appear in the order they were put into the LFT.

Appendix Table 4: Significant Glenigan projects in Cheshire & Warrington

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	Highway Works	Cheshire East	520.7	02/06/2018	02/06/2033	Infrastructure
2	Tails Management Facility	Cheshire West	260.3	15/01/2018	18/01/2021	Infrastructure
3	1200 Residential & Commercial	Cheshire West	118.2	01/07/2013	01/07/2019	New housing, Public Non-housing
4	Leisure & Shopping Centre	Warrington	107.0	04/01/2016	03/12/2019	Private Commercial
5	Highways Services	Cheshire East	95.5	07/10/2011	07/10/2018	Infrastructure
6	Relief Road	Cheshire East	78.4	16/03/2015	15/06/2018	Infrastructure
7	Leisure & Restaurant Block Building	Warrington	69.2	04/09/2017	10/01/2020	Private Commercial
8	Underground Gas Storage	Cheshire West	65.1	27/05/2019	27/01/2021	Infrastructure
9	74 Houses (New/Alterations)	Cheshire East	60.0	03/07/2017	03/07/2020	New housing
10	Road Improvement Works	Cheshire East	50.3	09/04/2018	03/01/2020	Infrastructure
11	2 Logistics/Industrial Units & 1 Office Unit	Warrington	47.3	04/06/2018	10/12/2018	Private Industrial
12	Bridge & Link Road	Warrington	43.4	01/01/2020	29/12/2021	Infrastructure
13	202 Houses/Flats	Cheshire East	43.0	30/10/2017	21/11/2022	New housing
14	Legacy Cylinder Facility	Cheshire West	40.4	16/04/2018	17/07/2023	Private Industrial
15	458 Houses	Cheshire West	34.4	08/01/2018	30/12/2022	New housing
16	266 Houses	Cheshire West	29.0	11/01/2016	02/04/2018	New housing
17	Market Building & Retail	Warrington	29.0	08/01/2018	25/05/2020	Private Commercial
18	2 Office/Workshop & Storage Buildings	Cheshire East	28.1	28/05/2018	28/02/2019	Private Commercial, Private Industrial
19	Hotel & Offices	Cheshire and Warrington	28.0	02/07/2018	02/09/2019	Private Commercial
20	366 Residential Development	Cheshire East	28.0	22/01/2018	20/01/2020	New housing
21	414 Residential Units	Cheshire East	28.0	20/12/2018	17/01/2020	New housing
22	350 Residential Units	Cheshire West	26.3	16/01/2017	13/07/2018	New housing
23	312 Residential Units	Cheshire East	25.0	21/05/2018	18/05/2020	New housing
24	217 Residential Units	Cheshire West	25.0	09/01/2017	11/02/2019	New housing
25	350 Homes	Cheshire East	23.7	19/08/2018	19/08/2021	New housing
26	Capital Works Framework	Warrington	21.7	22/08/2016	22/08/2019	Infrastructure
27	Offices	Cheshire East	21.7	30/07/2018	30/01/2020	Private Commercial
28	283 Houses	Cheshire West	21.2	16/04/2018	13/04/2020	New housing
29	268 Houses & 12 Flats	Cheshire West	21.0	28/08/2017	26/10/2018	New housing
30	230 Houses	Cheshire East	17.3	12/12/2016	12/02/2018	New housing
31	Leisure Centre	Warrington	16.8	22/08/2016	13/09/2018	Private Commercial
32	248 Houses & 27 Townhouses	Cheshire East	16.8	04/04/2016	02/04/2018	New housing
33	8 Retail Units (New/Conversion)	Warrington	16.4	18/12/2017	16/07/2018	Private Commercial

34	208 Houses & 12 Flats	Cheshire West	15.2	30/07/2018	30/06/2020	New housing
35	200 Holiday Lodges	Cheshire West	15.0	11/06/2018	08/07/2019	Private Commercial
36	182 Houses & 18 Flats	Warrington	15.0	05/06/2017	30/11/2018	New housing
37	193 Houses	Cheshire West	14.5	02/02/2018	02/03/2019	New housing
38	215 Residential Units	Cheshire West	13.3	16/09/2018	16/10/2019	New housing
39	Ponds/Relief Road	Cheshire East	13.2	04/06/2018	11/03/2019	Infrastructure
40	180 Houses	Cheshire West	12.4	19/08/2018	19/02/2019	New housing
41	Office Building	Warrington	11.9	05/02/2018	29/11/2019	Public Non-housing
42	Road (Improvements)	Warrington	11.5	02/04/2018	01/04/2019	Infrastructure
43	149 Houses & 1 Flat	Cheshire East	11.3	21/12/2017	17/01/2019	New housing
44	147 Houses	Warrington	11.0	26/02/2018	25/03/2019	New housing
45	155 Residential Units	Warrington	10.8	21/06/2018	18/07/2019	New housing
46	140 Houses	Cheshire East	10.5	02/02/2018	02/03/2019	New housing
47	136 Houses	Cheshire East	10.2	30/07/2018	30/08/2019	New housing
48	146 Houses/Flats & Bungalows	Cheshire East	10.2	30/07/2018	30/08/2019	New housing
49	4 General Industrial/Warehouse	Warrington	10.1	25/06/2018	25/06/2020	Private Industrial
50	Office	Cheshire East	9.8	30/05/2017	25/05/2018	Private Commercial
51	128 Houses	Cheshire West	9.6	06/02/2017	05/03/2018	New housing
52	126 Houses & 24 Flats	Cheshire East	9.4	16/04/2018	13/05/2019	New housing
53	Railway Station	Warrington	9.4	15/01/2018	13/05/2019	Infrastructure
54	126 Residential Units	Cheshire East	8.9	11/10/2018	08/11/2019	New housing
55	118 Houses	Cheshire East	8.9	03/04/2017	25/05/2018	New housing
56	Industrial/Warehouse & Distribution Unit	Cheshire West	8.6	11/06/2018	17/12/2018	Private Industrial
57	120 Houses	Cheshire East	8.5	17/01/2019	14/02/2020	New housing
58	47 Elderly Flats	Cheshire East	8.2	26/03/2018	29/03/2019	New housing
59	120 Houses	Cheshire East	7.6	13/02/2017	12/03/2018	New housing
60	100 Residential Units	Cheshire East	7.5	06/08/2018	02/09/2019	New housing
61	116 Houses	Cheshire West	7.4	18/06/2018	15/07/2019	New housing
62	Strategic Estates Partnership Joint Venture	Cheshire West & Chester	6.9	04/11/2013	04/11/2018	Public Non-housing
63	Office (Extension)	Cheshire East	6.9	05/12/2018	09/09/2019	Private Commercial
64	School	Cheshire East	6.7	16/04/2018	28/06/2019	Public Non-housing
65	Hotel & Leisure Facility (New/Conversion)	Cheshire East	6.5	19/02/2018	01/10/2018	Private Commercial, Infrastructure
66	Car Showroom/Workshop	Cheshire West	6.4	10/07/2017	31/07/2018	Private Commercial, Private Industrial
67	5 Industrial/Warehouse Units	Cheshire East	6.3	08/01/2018	08/07/2019	Private Industrial
68	Food Production Facility (Extension/Alterations)	Warrington	6.1	03/10/2016	30/03/2018	Private Industrial
69	Waste Transfer Station (Extension)	Warrington	5.6	05/01/2018	05/10/2018	Infrastructure
70	5 Offices & 3 Industrial/Warehouse Units	Cheshire West	5.6	30/07/2018	30/04/2019	Private Industrial
71	Electricity Generation Plant	Cheshire West	5.2	20/02/2018	27/11/2018	Infrastructure
72	Warehouse/Industrial Unit	Cheshire West	5.1	05/02/2018	13/08/2018	Private Industrial

73	Restaurant/Pub & Office (Conversion/Extension)	Cheshire West	5.0	21/05/2018	14/01/2019	Private Commercial
74	Retail/Restaurant Units	Cheshire West	4.5	09/04/2018	05/11/2018	Private Commercial
75	Roundabout Improvement Works	Cheshire East	4.3	08/01/2018	28/09/2018	Infrastructure
76	University Research & Administration Building	Cheshire East	4.0	20/03/2017	05/11/2018	Public Non-housing
77	72 Care Flats & 23 Elderly Extra Care Flats/3 Guest Rooms	Cheshire West	3.7	05/02/2018	05/11/2018	Public Non-housing, Private Commercial
78	Visitor Centre (Refurbishment)	Cheshire East	3.6	25/06/2018	25/06/2019	Public Non-housing
79	Schools	Cheshire West & Chester	3.2	09/03/2015	04/03/2019	Public Non-housing
80	Student Accommodation	Cheshire West	3.0	25/06/2018	25/08/2020	Public Non-housing
81	Shop (Fit Out)	Cheshire East	3.0	02/12/2019	28/02/2020	Private Commercial
82	22 Light Industrial Units	Cheshire West	2.8	09/04/2018	15/10/2018	Private Industrial
83	Warehousing/Distribution Centre	Cheshire East	2.4	05/02/2018	13/08/2018	Private Industrial
84	Warehouse & Distribution Building	Cheshire West	1.9	09/04/2018	20/10/2018	Private Industrial
85	Light Industrial & Offices	Warrington	1.7	12/06/2017	18/01/2018	Private Industrial
86	Student Accommodation	Cheshire East	1.6	09/10/2017	05/12/2018	Public Non-housing
87	6 Care Flats & 1 Elderly Care Home	Cheshire East	1.4	04/06/2018	04/03/2019	Public Non-housing
88	College (Extension)	Cheshire East	1.2	04/09/2017	07/05/2018	Public Non-housing

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