



WHOLE LIFE CONSULTANTS LTD



CITB ANALYSIS

Construction skills gap analysis for the South East Midlands area



An analysis of the opportunities presented by the construction landscape in the South East Midlands area

August 2018



EXECUTIVE SUMMARY

The South East Midlands LEP (SEMLEP) area can expect sustained spending on new construction projects of more than £2.7 billion per year for the foreseeable future.

To meet this anticipated demand and deliver the countless smaller and maintenance projects taking place, a total construction workforce of around 86,700 people is required now – increasing to more than 87,800 in 2022. But with an aging workforce there are risks that the South East Midlands authorities and developers may not be able to build everything on the wish list.

Across the SEMLEP area, new housing accounts for 39% of anticipated new project spend; 21% on private industrial developments; infrastructure for 19% and private commercial developments for 12%.

The South East Midlands 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.

Construction on its own makes up a huge part of the UK economy representing at least 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.

"The South East Midlands has a wide variety of construction job opportunities available over the coming years. These are well paid, high skilled jobs in a range of trades and professions so there is a job for every type of preference. 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, and house, future generation. CITB is working with employers to inspire, attract and train this new talent for these valuable and rewarding careers."

Nathan Wilkins, CITB Partnership Manager

High demand occupations

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

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

At risk occupations

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

- Scaffolders
- Painters and decorators
- Non-construction operatives
- Architects
- Construction trades supervisors
- Roofers
- Glaziers
- Plasterers & dry liners
- Wood trades and interior fit-out
- Bricklayers

Priority occupations

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

- Wood trades and interior fit out
- Plumbing and HVAC trades
- Painters and decorators
- Bricklayers
- Specialist building operatives
- Surveyors
- Plasterers and dry liners
- Roofers

Occupations in context – the challenge

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

Construction offers a huge range of well-paid, high skilled jobs requiring multiple different aptitudes – so there is something for almost everyone. The opportunity is to exploit the opportunities to achieve social and economic gains by encouraging people from the area into these roles by providing the associated support and career pathways. This challenge is set against the backdrop of: the area having a greater than average risk of workforce shortages. And this is likely to be exacerbated by the area's proximity to major conurbations also facing high demand.

The Professions

There is high demand for many professional and creative roles, jobs which require a significant length of training before candidates become qualified. Architects, surveyors and civil engineers require higher level qualifications and 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 the SEMLEP to encourage adoption of new technologies and new practices like off-site and modular construction to help meet demand.

Training and education

More than 100 training providers have delivered construction training (including apprenticeships) over the last five years. But a core network of ten providers have delivered around 85% of that.

Construction apprenticeships in the area have increased steadily between 2013 and 2017, which is good news; however, the number of new starters on training has decreased by 7% overall. For many occupations there are good levels of competence qualifications being delivered (which the construction industry tends to value) however for some occupations there are very small numbers of qualifications being delivered and in some cases these tally with priority occupations – e.g. plasterers and roofers.

Recommendations

The report proposes recommendations that include:

1. Establish, or develop, a South East Midlands area construction skills strategy and action plan which recognises collective, actions and solutions that may be required in and across each of the local authority areas.
2. Develop and strengthen relevant collaborative partnerships. This with a view to building collaborative holistic action plans and encouraging local stakeholders to: work together, input to and take ownership of the construction skills actions.
3. 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.
4. Develop skills and training pathways for both current and future skills needs. Ensure training is appropriate for local needs and businesses. Develop SEMLEP area construction training so that it is appropriate for the needs of the construction industry and local circumstances, addressing risks of supply shortfalls.
5. Use procurement as a lever to enable positive action. Develop smarter approaches to procurement to encourage wider contract awards that enable small and medium sized employers to get involved. Tender responses for infrastructure contracts or those funding developments should be mandated to include provision for recruitment, training, apprenticeships and outreach.

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1. INTRODUCTION

The purpose of this report is to present evidence to the South East Midlands LEP (SEMLEP) on the skills provision and needs required in the construction industry over the next five years within the SEMLEP area. Its aim is to help inform decision makers target resources to employment and skills opportunities, which in turn will enable economic growth.

1.1. SCOPE

This work was commissioned by SEMLEP. Its purpose is to inform stakeholders of where skills shortages are likely to be present over the next five years within the construction industry in the SEMLEP area.

Figure 1 shows the area covered by the South East Midlands area, and Table 1 lists the local authorities involved.

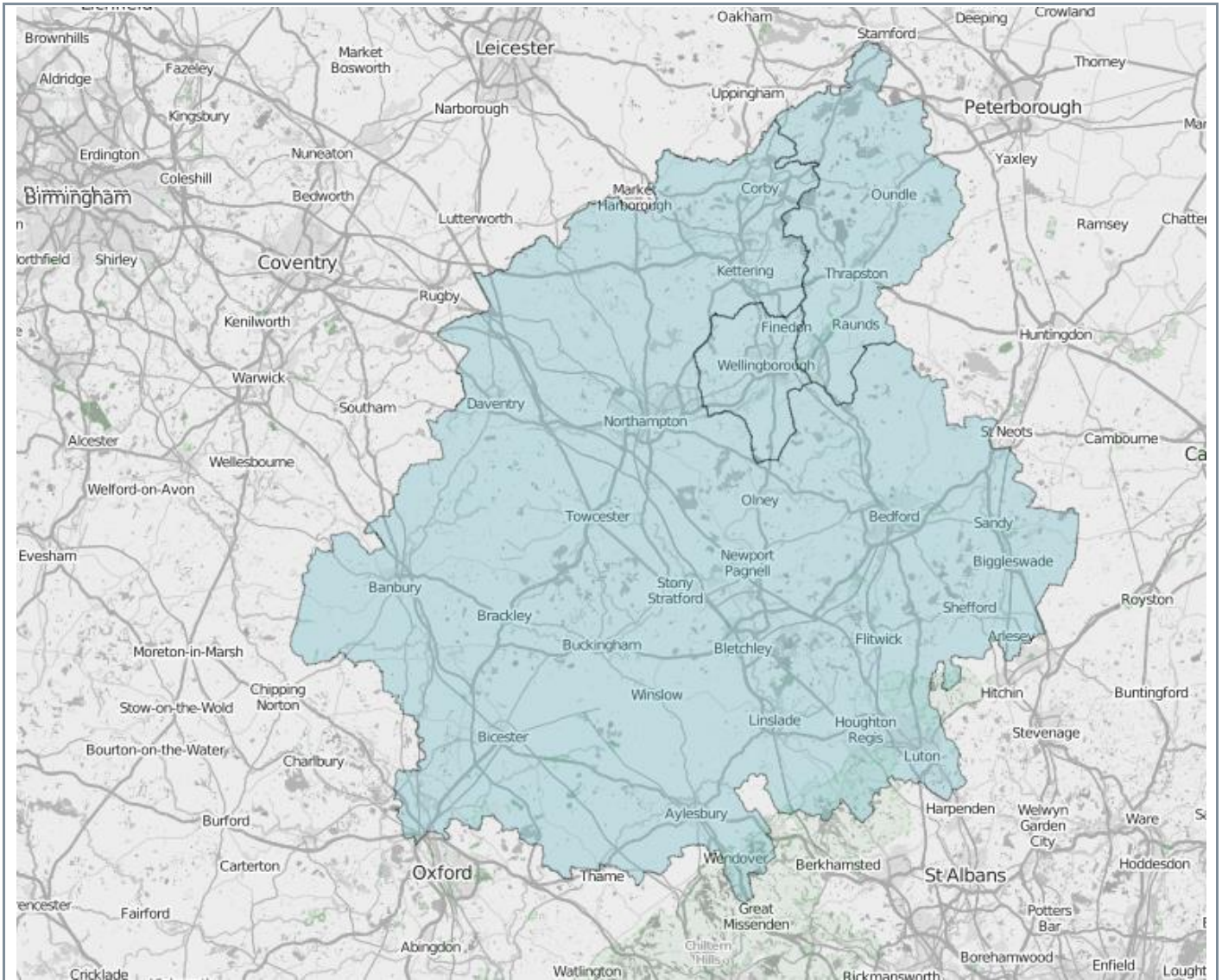


Figure 1: South East Midlands and surrounding areas

Table 1: Analysed local authorities

South East Midlands area		
Aylesbury Vale	Daventry	Milton Keynes
Bedford	East Northamptonshire	Northampton
Central Bedfordshire	Kettering	South Northamptonshire
Cherwell	Luton	Wellingborough
Corby		

2. LABOUR DEMAND IN THE SOUTH EAST MIDLANDS

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

2.1. SUMMARY OF DEMAND

- Our estimate of the labour demand in the South East Midlands is around 86,720 people in 2018. The projected growth between 2018-2022 suggests that the labour demand in 2022 will be around 87,840 people.
- Around 60% of the workforce is employed in skilled trades & operatives, the other 40% 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 11,700 people.
- The skilled trade & operative occupations in greatest demand are:
 - Wood trades and interior fit-out with a requirement for 9,380 people
 - Electrical trades and installation follow with 6,250 people
 - Plumbing and heating, ventilation, and air conditioning trades rank third, with a demand of 5,760 people

2.2. PIPELINE OF KNOWN PROJECTS

2.2.1. Glenigan pipeline analysis

We have considered projects in the Glenigan database¹ and the National Infrastructure and Construction Pipeline (NICP)². These comprise of what are referred to as the known projects.

An initial review of the Glenigan database identified 951 projects in the South East Midlands area. Of the Glenigan projects, 98 were removed due to missing dates. Also excluded were seven projects which were clearly identified as consultancy projects. One project was removed because it was a duplicate. Seven 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 2.3% 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 132 significant projects accounting for 86% 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 the South East Midlands 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 we have used the 2018/Q1 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 2017 NICP which includes details of around 700 projects valued at some £463bn.

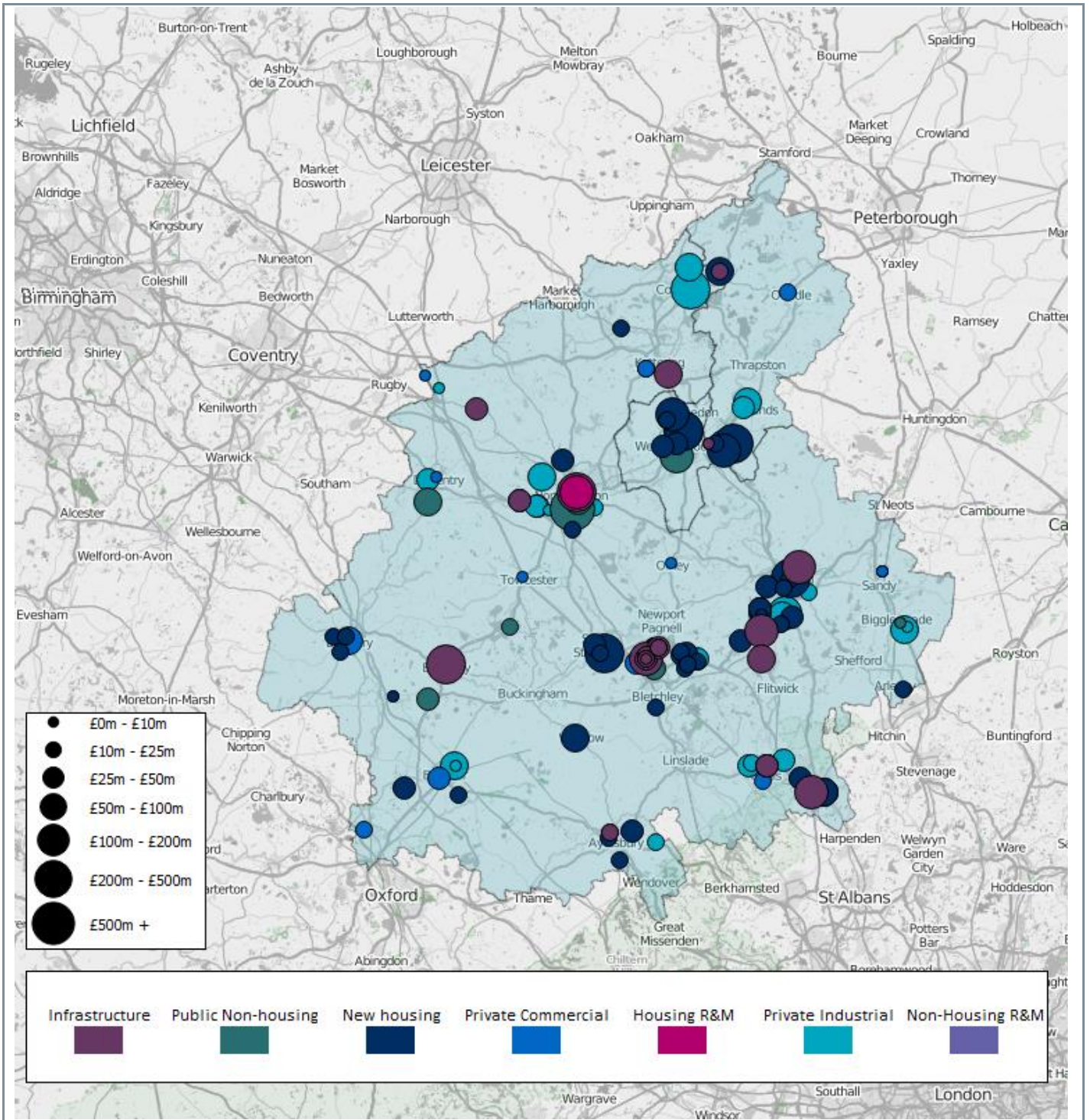


Figure 2: Location of significant Glenigan projects included in the analysis

2.2.2. 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 2 shows the distribution by project type of new build spend for the total pipeline of known projects.

Table 2: New-build construction spend by project type in 2018 (total known projects)

Project type	Construction spend in 2018 (2018 values - £m)	% of total
New housing	1,052	39%
Private industrial	579	21%
Infrastructure	515	19%
Private commercial	328	12%
Public non-housing	243	9%
Total	2,717	100%

Table 3 shows the infrastructure construction spend from the known projects in 2018 by infrastructure sub-type. Appendix E provides a full breakdown of the NICP projects and their construction values

Table 3: Construction spend per infrastructure sub-type in 2018 (total known projects)

Project type	Construction spend in 2018 (2018 values - £m)	% of total
Transport	374	73%
Water	78	15%
General infrastructure	26	5%
Energy	24	5%
Flooding	13	2%
Total	515	100%

2.3. 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 86,720 people in 2018. The projected growth between 2018 and 2022 suggest that the labour demand in 2022 will be around 87,840.

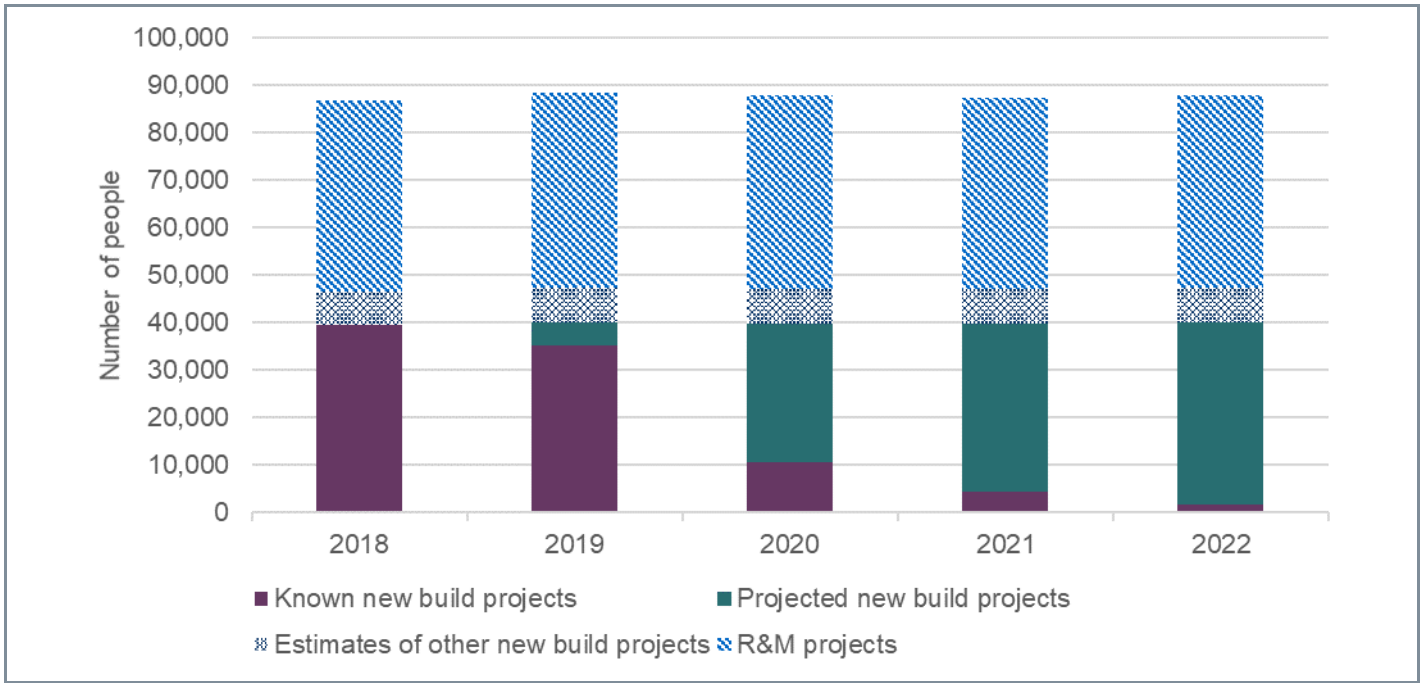


Figure 3: Total construction labour demand including estimates for both R&M and estimates of other work

2.3.1. Breakdown of labour demand by occupation

Figure 4 presents the breakdown of labour for skilled trades & operatives and managerial, professional & office based staff. Around 60% of the workforce are in skilled trades & operative occupations.

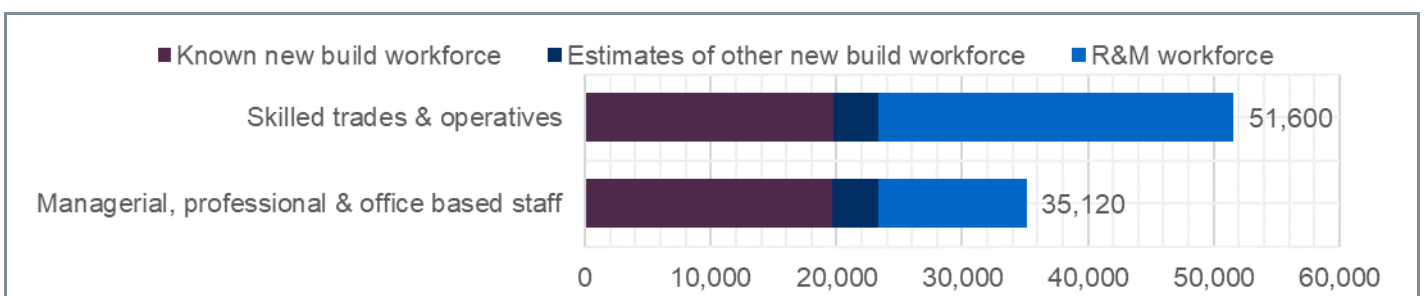


Figure 4: Total construction labour demand for 2018 by broad occupational group

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.

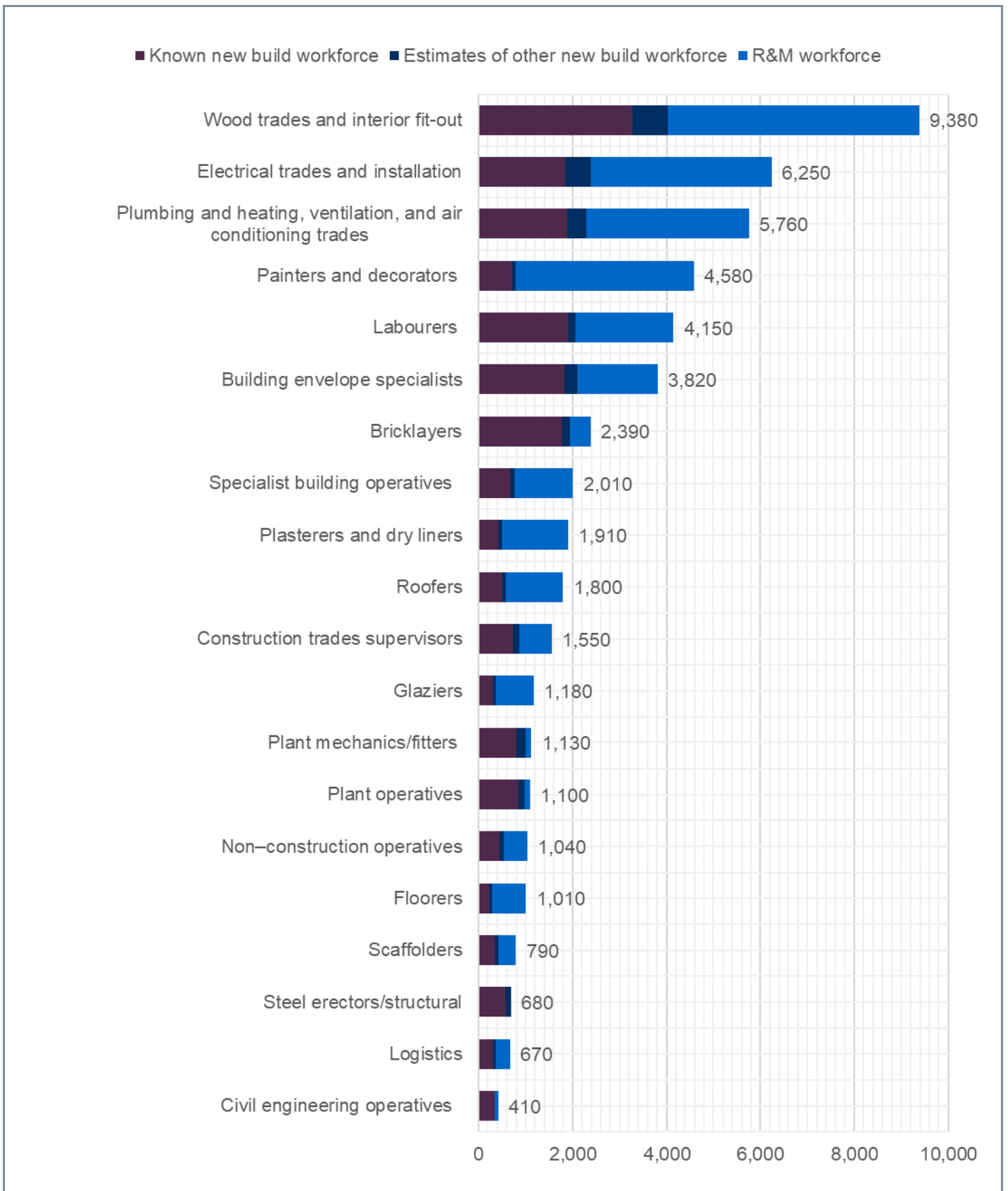


Figure 5: Construction labour demand for skilled trades & operative occupations in the peak year

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.

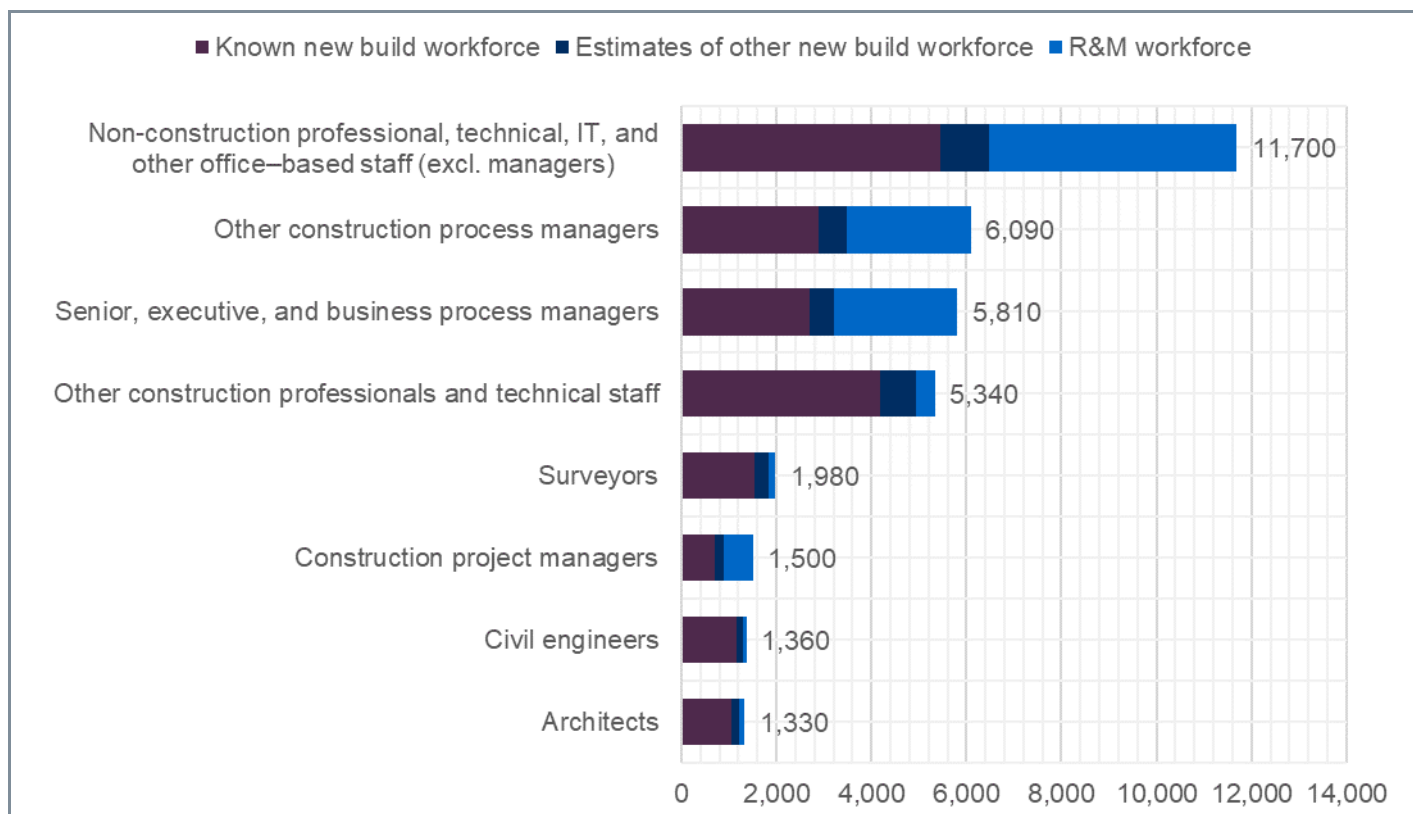


Figure 6: Construction labour demand managerial, professional & office based occupations in the peak year

2.3.2. Breakdown of labour demand by project type

Table 4 shows the labour demand generated by the known projects and the estimates of other work in 2018 broken down by project type.

Table 4: 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 on 2018 (people)	% of total in 2018
Non-housing R&M	-	21,660	21,660	25%
Housing R&M	1,110	17,300	18,410	21%
New housing	13,610	-	13,610	16%
Private commercial	5,970	7,170	13,140	15%
Private industrial	10,560	-	10,560	12%
Infrastructure	4,800	-	4,800	6%
Public non-housing	4,540	-	4,540	5%
Total	40,590	46,130	86,720	100%

2.4. 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 the west of the SEMLEP area.

2.4.1. INDICATIVE SCHEDULE AND IMPACT

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.

As part of the phase one work, an infrastructure maintenance depot is planned to be built at Calvert, Buckinghamshire. This depot will connect to the northbound and southbound HS2 mainline tracks just south of Twyford and at Calvert Green to allow maintenance trains to access the route. Rail chords will also connect the depot to existing rail lines to Bicester and Bletchley.

2.4.2. 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 is summarised in Table 5.

Table 5: 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](#).

2.4.3. Brexit – demand calculations and forecasting

Economic forecasts in this report are predicated on the Brexit position at the time of writing.

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 will take much longer to finalise, hence a four-year horizon.

3. LABOUR SUPPLY

3.1. LABOUR SUPPLY INTRODUCTION

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 South East Midlands LEP area and how this relates to overall construction employment across the wider East Midlands, East and South East regions 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.

3.2. MAIN POINTS

- Analysis of the Annual Population Survey shows that the South East Midlands LEP area accounts for around 15% of construction employment in the East Midlands, 9% East and 5% of South East
- Current construction workforce within the South East Midlands LEP area is estimated at 65,200 workers
- Over the period from 2010/11 to 2016/17 the South East Midlands LEP area construction workforce has fluctuated up and down but overall grown by 9% to 65,200, broadly similar growth to neighbouring regions
- The number of construction businesses within the South East Midlands LEP area has grown by 13% over the period 2010 to 2017, similar to growth levels across its neighbouring regions

3.3. EXISTING WORKFORCE

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

An analysis of the Annual Population Survey shows that the South East Midlands area accounts for around 15% of construction employment in the East Midlands, 9% East and 5% of South East. Please note this employment is 'workplace' analysis – i.e. it is the number of workers employed by employers within the South East Midlands area.

Over the period from 2010/11 to 2016/17 the South East Midlands area construction workforce has fluctuated up and down but overall grown by 9% to 65,200. This overall level of growth is broadly similar to growth across its neighbouring regions. This is shown in Figure 7 below.

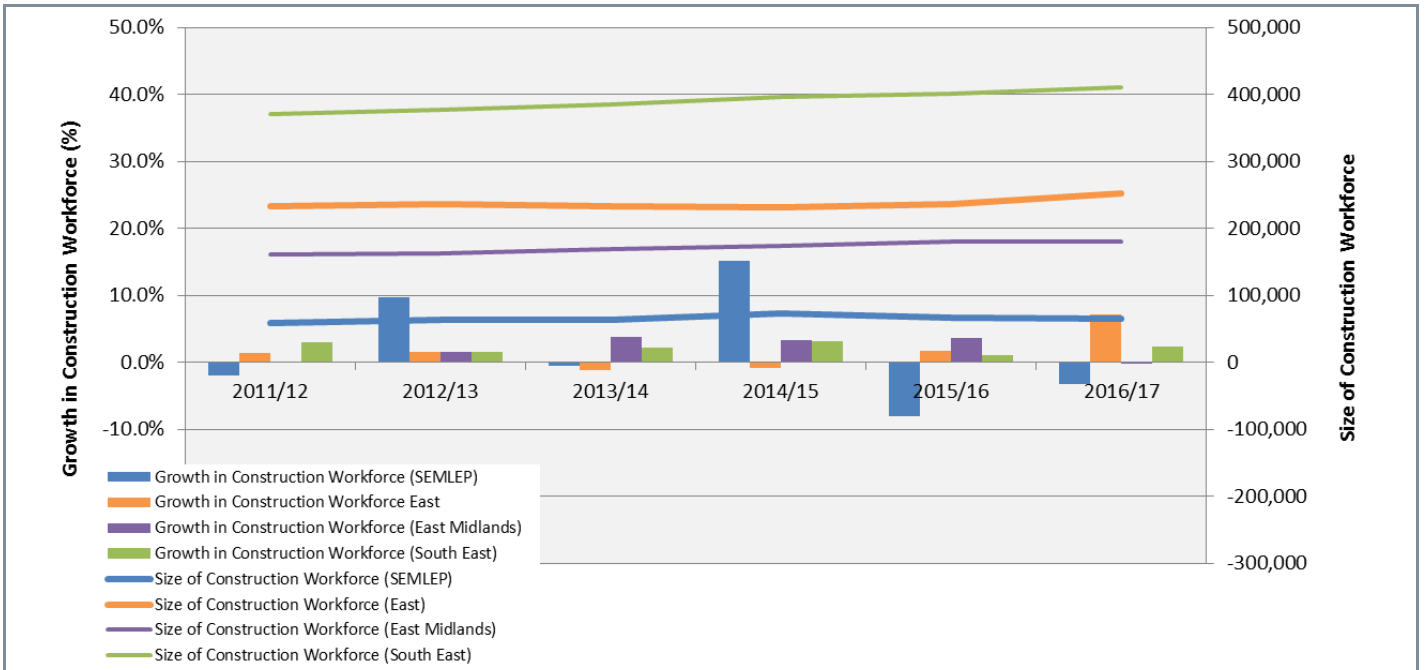


Figure 7: Year on year change in Construction Employment (Experian/CITB & NOMIS 2016)

Self-employment accounts for 50% of the South East Midlands LEP construction workforce, higher than across the East Midlands (36%), East (43%) and South East (47%).

The number of construction businesses within the South East Midlands LEP area has grown by 13% over the period 2010 to 2017, similar to growth levels across its neighbouring regions as shown in Figure 8 below.

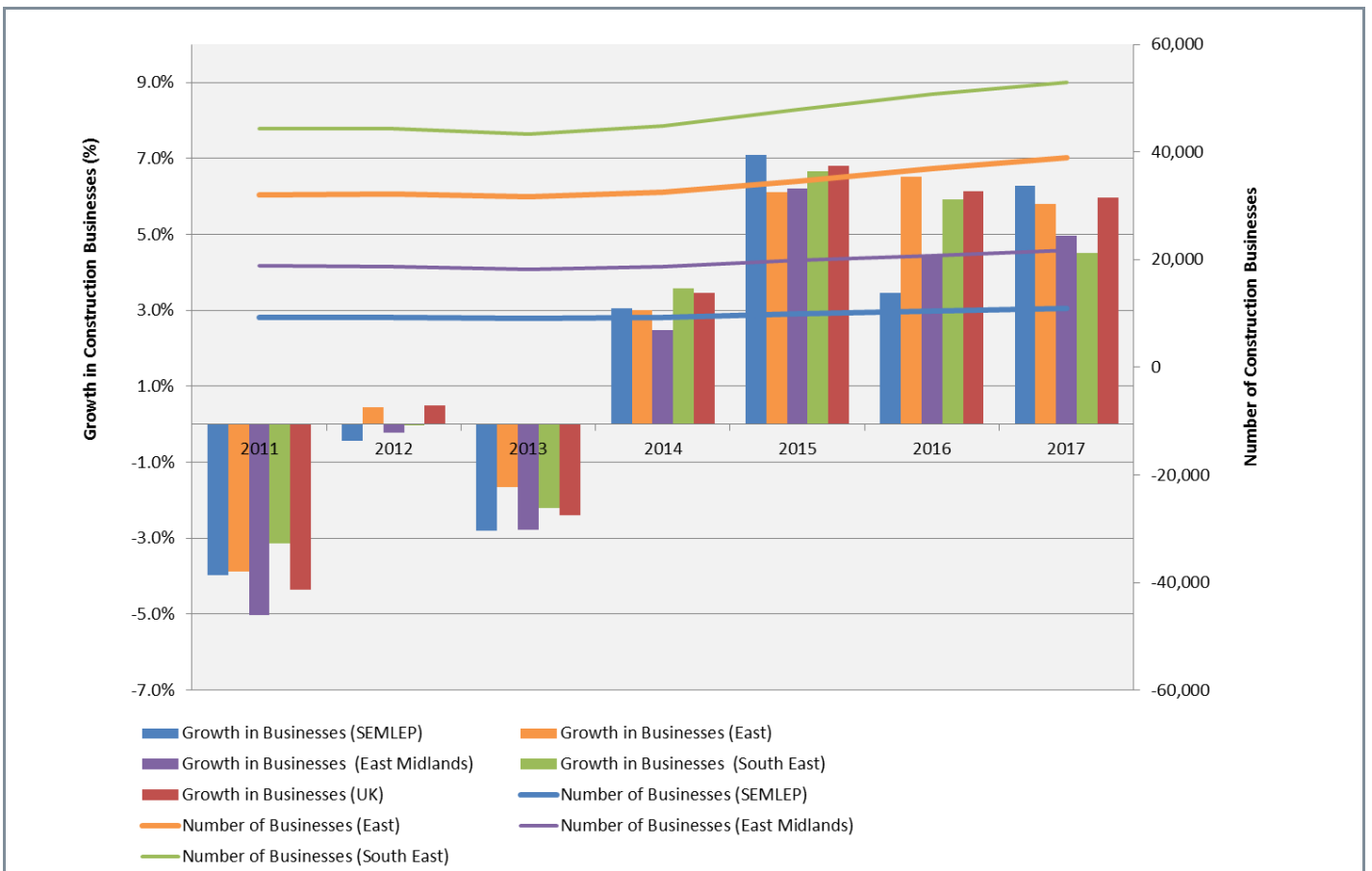


Figure 8: Year on year change in Construction Businesses (UK Business Count, NOMIS 2017)

Figure 9 shows the distribution of construction businesses within the South East Midlands LEP area, and Figure 10 shows the distribution of the construction workforce, clearly highlighting the similarities and any differences. Central Bedfordshire is interesting in that it accounts for 18% of businesses but only 13% of employment, with Northampton the opposite at 10% of businesses but 16% of employment. Northampton is likely to have relatively fewer but larger in terms of employment businesses.

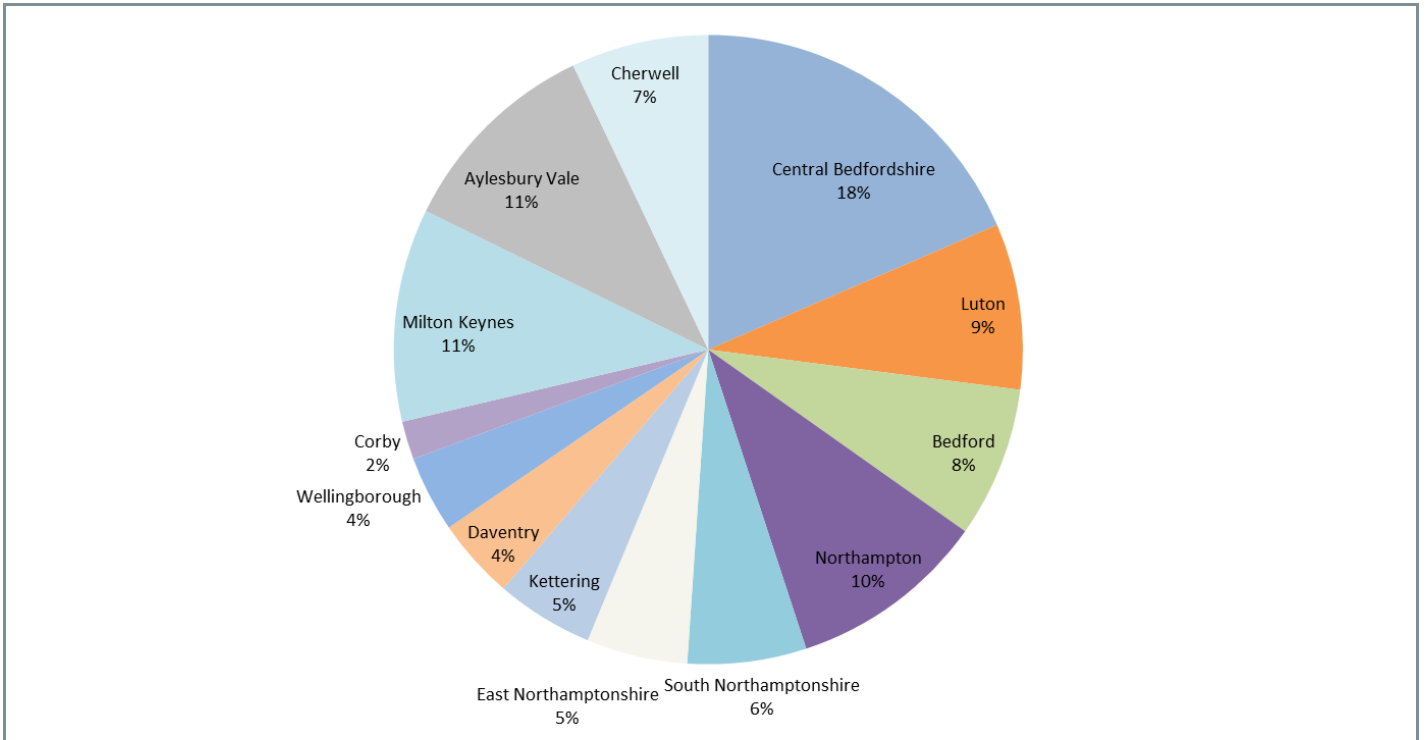


Figure 9: Distribution of construction businesses within the South East Midlands area (UK Business Count, NOMIS 2017)

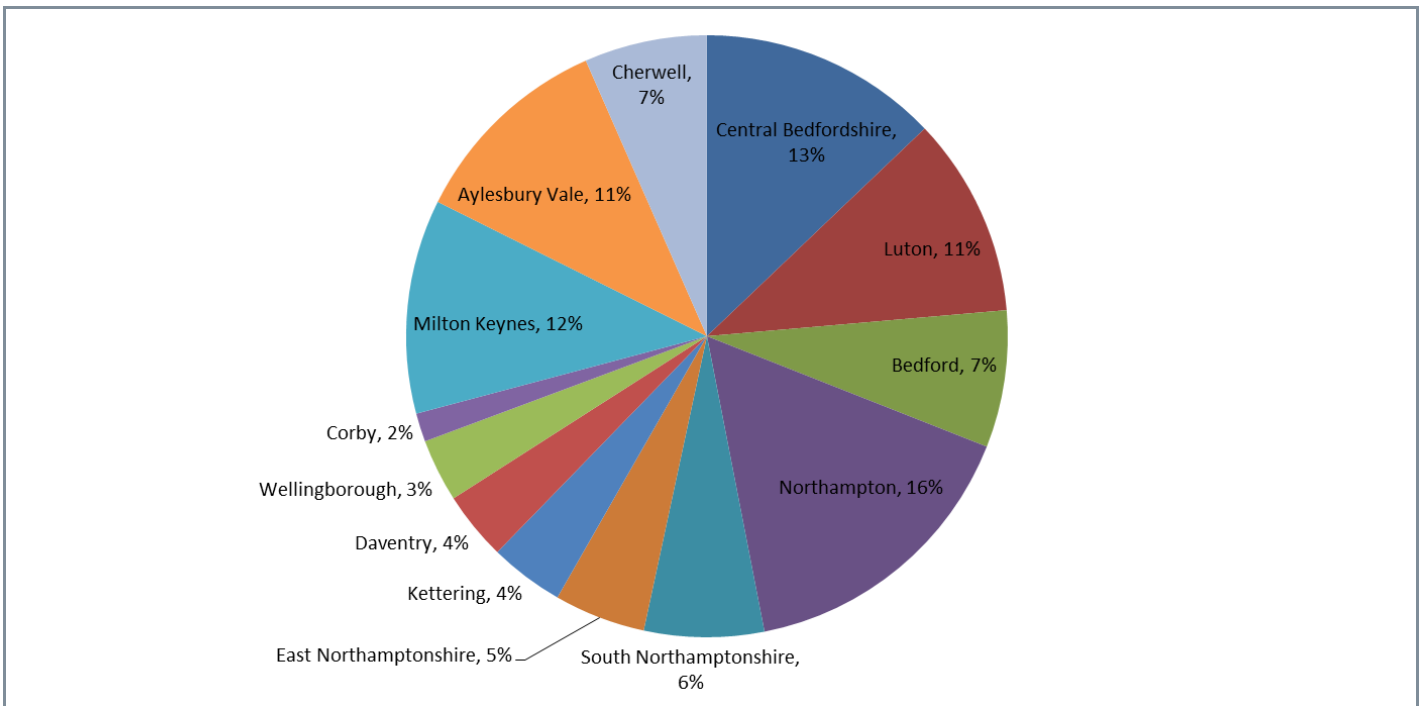


Figure 10: Construction employment by area within the South East Midlands area (2017, NOMIS)

When it comes to business size, the distribution of companies across the South East Midlands area is, however, largely reflective of the pattern seen across its neighbouring regions as a whole, and indeed the United Kingdom, with the majority of construction companies being micro sized, as shown in Figure 11.

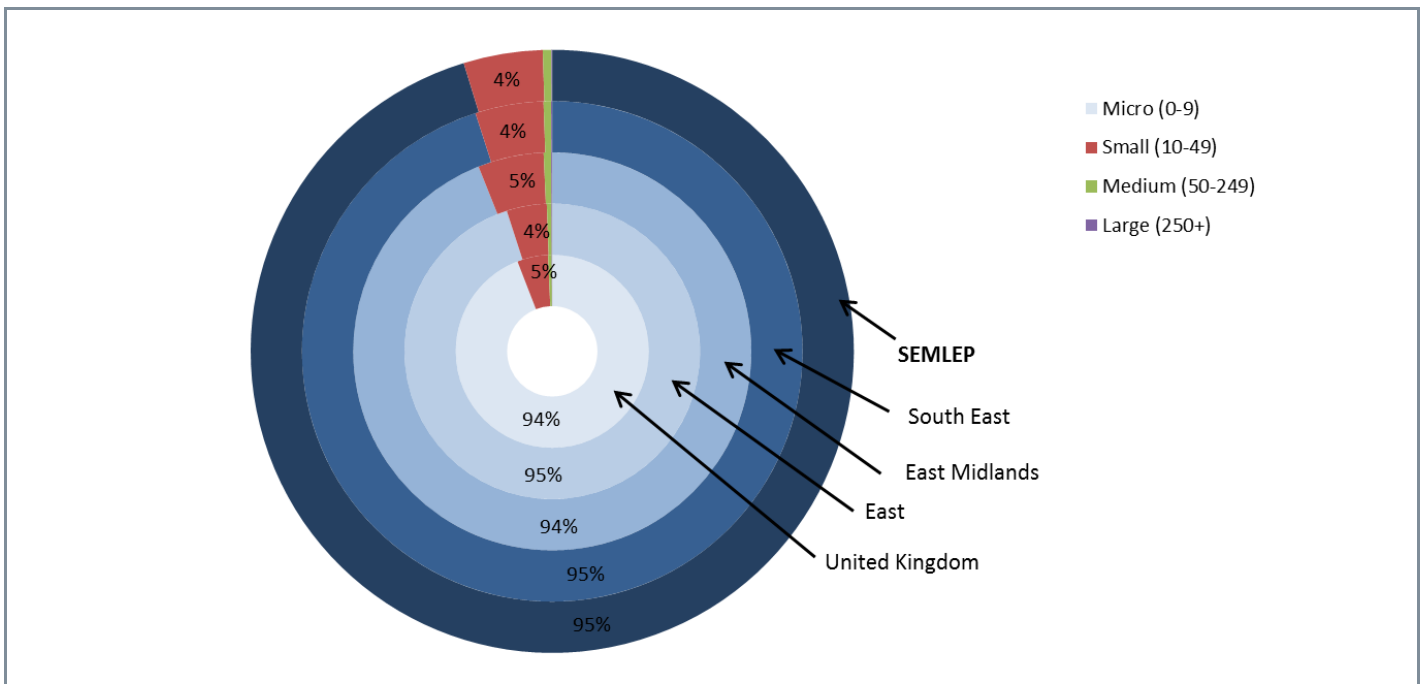


Figure 11: Construction Businesses by Size (UK Business Count, NOMIS 2017)

All of the growth from 2010 to 2017 in construction businesses within the South East Midlands area has been due to an increase in the number of micro sized companies. The picture is almost identical for the neighbouring regions with the only difference a very slight increase in medium sized (50-249) businesses in the South East over the period.

Table 6 applies the percentage share of employment of the South East Midlands area across each of the CSN regions it crosses (East, East Midlands and South East) to provide an estimate of total employment at occupational and industry level in the South East Midlands LEP area. The SEMLEP area's construction workforce represents 8.2% of the workforce of the three regions combined.

Table 6: Current construction workforce - occupational breakdown, 2016 (Source: Experian & CITB)

	South East Midlands area	East of England	East Midlands	South East
SKILLED TRADES				
Wood trades and interior fit-out	6,760	23,880	19,260	37,490
Electrical trades and installation	4,990	16,170	14,990	27,740
Plumbing and HVAC Trades	4,160	15,500	10,560	25,560
Labourers nec*	3,350	12,260	8,660	20,510
Building envelope specialists	2,890	9,550	7,760	18,620
Painters and decorators	2,520	9,870	5,580	17,120
Bricklayers	1,730	8,330	4,140	8,080
Specialist building operatives nec*	1,540	4,500	4,980	8,300
Plasterers	1,520	5,660	5,110	5,500
Plant operatives	1,060	3,140	3,680	4,880
Roofers	1,040	4,310	1,910	7,740
Plant mechanics/fitters	1,000	2,870	3,390	4,970
Glaziers	850	2,600	2,780	4,320
Floorers	760	4,100	1,510	3,830
Logistics	630	3,070	1,510	2,880
Steel erectors/structural fabrication	570	2,430	1,450	2,840
Civil engineering operatives nec*	450	890	1,950	1,670
Scaffolders	380	2,260	480	2,370
MANAGEMENT & PROFESSIONAL OCCUPATIONS				
Other construction process managers	4,870	16,150	13,410	30,120
Senior, executive, and business process managers	4,440	15,720	12,090	26,190
Other construction professionals and technical staff	4,350	13,840	9,920	34,230
Surveyors	1,550	5,240	4,470	8,740
Civil engineers	1,350	6,610	3,150	6,280
Construction Project Managers	1,080	4,630	2,150	7,330
Construction Trades Supervisors	900	4,020	1,760	5,920
Architects	700	3,890	770	5,090
OFFICE BASED ROLES				
Non-construction professional, technical, IT, and other office-based staff	9,050	32,380	24,300	53,740
Non-construction operatives	720	1,910	2,840	2,660
Total	65,200	235,770	174,580	384,720
				795,070

Note: numbers rounded to the nearest 10

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

4. TRAINING PROVISION

4.1. MAIN POINTS

The South East Midlands LEP area:

- Just over 105 training providers have delivered construction-related FE courses within the South East Midlands LEP area over the last five years, with ten main providers delivering 84% of the provision
- Training provision is across a range of construction occupations
- Good levels of competence qualifications achievements across many construction occupations, most notably electrical trades and installation, wood trades and interior fit-out, plumbing and HVAC trades and plant operatives
- The South East Midlands area accounts for 10% of all identified construction related training across the combined East Midlands, East and South East regions
- Construction apprenticeship starts have increased across South East Midlands area (56% increase from 2012/13 to 2016/17), higher than East (38%), East Midlands (35%) and South East (30%) over the same period

4.2. TRAINING PROVISION INTRODUCTION

The total volume of training provision in the South East Midlands LEP area has reduced over the five years from 2012/13 to 2016/17, with the number of new starters decreasing by 7% over this period. However, despite an overall decline in numbers, the starters on apprenticeships has increased by 56% over the same period.

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

- The South East Midlands LEP area accounts for 10% of all identified construction related training across the combined East Midlands, East and South East regions.
- As a whole, the South East Midlands area is showing a decrease in the number of construction learner starts of -7% across the five years at a time which compares to declines of 22% for East Midlands, 18% South East and 5% East over the same period.
- Construction apprenticeship starts have increased across South East Midlands area (56% increase from 2012/13 to 2016/17), higher than East (38%), East Midlands (35%) and South East (30%) over the same period.
- Construction training within South East Midlands is balanced slightly more towards qualifications at Level 2 and above, which account for 61% of starts over this period
- In terms of training providers, just over 105 different providers have delivered training for the South East Midlands area between 2012/13 and 2016/17. However, there is a consistent pattern with approximately 84% of training being delivered by a core network of 10 providers
- Bedford, Moulton, Milton Keynes and Barnfield Colleges are the largest providers of construction training to the area.

“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 7 shows qualification achievements over the last five years for the identified competence based qualifications, comparing achievement volumes against the overall pattern for the three combined neighbouring regions (East Midlands, East and South East) 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 (61%).

The percentage comparison with the combined neighbouring regions as a whole is used to demonstrate how the provision of training in South East Midlands by occupation compares to 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 combined neighbouring regions. These are:

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

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 7: Competence qualification achievements in South East Midlands area as a % of total competence qualification achievements in East Midlands, East and South East region as a whole (Source: CITB/SFA)

Construction Occupations	12-13	13-14	14-15	15-16	16-17	Total Competence Achievements (Learner Aims) 12-13 to 16-17	Total
Total	9%	9%	9%	10%	12%	6,210	10%
Main Occupations							
Electrical trades and installation	13%	12%	12%	12%	11%	1,180	12%
Wood trades and interior fit-out	12%	11%	8%	13%	9%	1,080	11%
Plumbing and HVAC Trades	7%	7%	9%	8%	11%	880	8%
Plant operatives	9%	7%	6%	6%	17%	710	8%
Occupations with good provision							
Bricklayers	14%	15%	7%	7%	13%	480	11%
Floorers	8%	22%	22%	25%	58%	480	24%
Civil engineering operatives nec*	10%	4%	5%	6%	8%	250	6%
Specialist building operatives nec*	4%	13%	6%	5%	7%	230	7%
Occupations to Monitor							
Painters and decorators	10%	8%	5%	7%	12%	180	9%
Construction Trades Supervisors	16%	3%	39%	12%	4%	130	15%
Glaziers	6%	2%	10%	8%	3%	130	7%
Building envelope specialists	6%	6%	7%	7%	16%	120	7%
Low Overall Learner Volumes							
Other construction professionals and technical staff	6%	9%	18%	15%	19%	90	14%
Scaffolders	7%	11%	2%	4%	8%	90	7%
Plasterers	5%	6%	4%	17%	4%	70	7%
Plant mechanics/fitters	13%	13%	4%	8%	9%	60	9%
Roofers	2%	3%	8%	3%	27%	40	6%
Construction managers	3%	24%	82%	40%	14%	30	15%
Logistics	0%	0%	18%	50%	0%	10	13%
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 for occupations such as bricklayers, floorers, civil engineering operatives and specialist building operatives. It could be that there are providers with particular specialisms in these areas operating within 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, construction trade supervisors, glaziers and building envelope specialists. It is possible that individuals within the South East Midlands area 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 over 105 different providers have delivered training for the South East Midlands area between 2012/13 and 2016/17. However, there is a consistent pattern with approximately 84% of training being delivered by a core network of 10 providers, as shown in Table 8.

Table 8: Top 10 training providers delivering training to South East Midlands area by number of starts – excluding apprenticeships (Source: CITB/SFA)

Provider	2012-13	2013-14	2014-15	2015-16	2016-17	Total (Learner Aims)	% Share of Total Quals	% of Quals Ofqual Registered
Bedford College	1,420	1,800	1,980	2,260	1,010	8,470	23.9%	64.2%
Moulton College	1,800	1,780	1,270	1,070	810	6,710	19.0%	81.7%
Milton Keynes College	1,370	960	780	530	630	4,270	12.1%	76.0%
Barnfield College	1,040	790	810	500	480	3,610	10.2%	87.3%
Tresham College of Further & Higher Education	760	410	350	280	230	2,030	5.7%	98.0%
Aylesbury College	350	310	210	200	220	1,290	3.7%	95.7%
North Warwickshire & Hinckley College	240	250	200	190	160	1,050	3.0%	100.0%
Central Bedfordshire College	130	250	190	260	200	1,020	2.9%	96.6%
Northampton College	80	170	200	160	170	770	2.2%	83.4%
The Consultancy Home Counties Limited	0	0	0	0	610	620	1.7%	12.8%

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

Bedford College and Moulton College are the largest providers of construction training to the area, although Bedford College provides a lower proportion of Ofqual registered qualifications compared to the average for the area (81%).

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.

- When looking at training provision across individual local authorities within the South East Midlands area (Table 9)
- Across all qualifications, starts have only increased in Northampton, Bedford, Kettering, South Northamptonshire, East Northamptonshire, Cherwell and Central Bedfordshire with all other local authority areas decreasing.

Table 9: Unique Learner starts by area, construction subjects, all levels (Source: CITB/SFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	% Net change 12/13 – 16/17	% Quals at Level 2+
Aylesbury Vale	710	630	540	440	420	-41%	51%
Bedford	990	1,020	1,060	1,220	1,060	8%	66%
Central Bedfordshire	360	550	530	390	400	11%	88%
Cherwell	320	360	450	320	370	15%	41%
Corby	520	440	340	320	430	-18%	67%
Daventry	1,440	1,290	1,270	1,230	1,220	-15%	49%
East Northamptonshire	200	340	230	170	250	27%	57%
Kettering	60	50	80	50	120	113%	93%
Luton	800	830	760	590	700	-13%	55%
Milton Keynes	590	400	350	560	510	-15%	58%
Northampton	170	270	260	320	360	111%	90%
South Northamptonshire	190	170	140	110	250	33%	70%
Wellingborough	230	80	80	30	50	-77%	75%
Grand Total	6,220	6,030	5,760	5,410	5,790	-7%	61%

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

As a whole, the South East Midlands area is showing a decrease in the number of construction learner starts of -7% across the five years at a time with neighbouring regions also declining East Midlands (22%), South East (18%) and East (5%) over the same period.

However, countering this decline there has been a 56% increase in the number of apprenticeship starts within the South East Midlands area 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 five years. Apprenticeships are investigated in more detail in the next section.

4.3. APPRENTICESHIPS

When apprenticeships are considered in the South East Midlands area, we can see that the number of apprenticeship starters is increasing at a time when volumes of training overall are declining. Table 10 shows that the number of apprenticeship starters in the South East Midlands area went up by 56% from 2012/13 to 2016/17, in comparison to the 7% overall decrease in the total number of construction learner starts across the same time period.

Wellingborough is the only local authority within the South East Midlands area which had a slight decrease in apprenticeship starts from 2012/13 to 2016/17. The average increase over the period was 56% which is higher than that across the East Midlands (35%), East (33%) and South East (36%).

Table 10: Unique apprenticeship starts by area (South East Midlands area), construction subjects (Source: CITB/SFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Increase/ decrease	% Net Change
Daventry	230	230	270	270	380	150	65%
Milton Keynes	70	60	70	290	160	90	129%
Bedford	120	100	130	160	210	90	75%
Northampton	70	70	110	170	150	80	114%
Corby	90	80	60	70	170	80	89%
Luton	80	100	150	120	150	70	88%
Kettering	40	40	60	40	90	50	125%
East Northamptonshire	40	20	30	40	60	20	50%
South Northamptonshire	50	40	60	50	70	20	40%
Central Bedfordshire	100	140	130	140	120	20	20%
Cherwell	80	90	120	120	80	0	0%
Aylesbury Vale	130	120	130	160	130	0	0%
Wellingborough	50	20	30	10	40	-10	-20%
Grand Total	980	940	1,170	1,460	1,520	540	56%

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

Table 11 considers apprenticeship starts by trade, and shows the biggest increase in volume terms from 2012/13 to 2016/17 has occurred in plumbing and HVAC trades, wood trades and interior fit-out, electrical trades and installation and bricklayers (increases of 40 or higher). Plant operatives and floorers have experienced a slight decrease in apprenticeship starts over the same time period.

Table 11: Unique apprenticeship starts by occupation (South East Midlands area), construction subjects (Source: CITB/SFA)

Occupation	2012-13	2013-14	2014-15	2015-16	2016-17	Increase / decrease
Plumbing and HVAC Trades	220	180	220	250	320	100
Wood trades and interior fit-out	190	220	260	250	290	100
Electrical trades and installation	200	190	230	250	280	80
Bricklayers	110	100	140	150	150	40
Other construction professionals and technical staff	10	40	20	40	40	30
Civil engineering operatives nec*	10	<10	10	20	30	20
Plant mechanics/fitters	10	10	10	30	30	20
Construction managers	0	10	10	20	20	20
Plasterers	10	10	20	10	20	10
Painters and decorators	40	20	50	30	40	0
Roofers	0	0	10	<10	<10	0
Building envelope specialists	0	<10	<10	10	<10	0
Glaziers	10	10	20	10	10	0
Construction Trades Supervisors	0	0	0	10	<10	0
Scaffolders	10	10	20	10	10	0
Plant operatives	10	0	<10	0	<10	-10
Floorers	20	10	10	<10	10	-10

Note: Number of starts and any increase/decrease have been rounded to the nearest 10
Green indicates positive increase, red decrease

Table 12 considers apprenticeship starts by provider. 96 different providers in total have delivered apprenticeships in construction for the South East Midlands area between 2012/13 and 2016/17. However, as with non-apprenticeship training starts, the bulk is being delivered by a core network of 10 providers who account for 86% of all provision in the area. Moulton College is the largest provider, delivering 320 new apprenticeships starts in the area in 2016/17.

Table 12: Unique apprenticeship starts by provider in South East Midlands (subjects (Source: CITB/SFA)

Local Authority	2012-13	2013-14	2014-15	2015-16	2016-17	Total	% Share
Moulton College	190	190	220	220	320	1,140	18.7%
CITB	170	180	270	250	250	1,120	18.4%
Bedford College	70	60	80	140	350	690	11.4%
Tresham College Of Further And Higher Education	130	100	100	110	100	540	8.8%
Aylesbury College	110	80	90	120	90	490	8.0%
JTL	70	80	70	80	80	370	6.1%
Northampton College	40	40	60	70	60	260	4.2%
Introtrain (Ace) Limited	30	40	70	70	50	250	4.1%
Barnfield College	20	40	60	40	50	200	3.3%
Milton Keynes College	60	40	30	20	30	190	3.2%

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

4.4. HIGHER EDUCATION

As students at higher education level are typically willing to travel further than for FE provision, this section will broaden the locality and consider the East Midlands, East and South East as a whole when examining the outcomes of students. There are five broad Higher Education qualifications that relate to construction: Architecture, Building, Civil Engineering, Planning, and Landscape & Garden Design.

There are 29 HE institutions that offer construction-related courses across the three regions.

Figure 12 shows the number of achievements per annum at the institutions offering construction-related courses at HE level across the three regions. Since 2012/13 these have been decreasing year on year to 5,160 achievements in 2015/16 (a 17% decrease), but it is interesting to note that the reduction in numbers has been concentrated mainly in Building (-480 in absolute numbers, a 29% decrease).

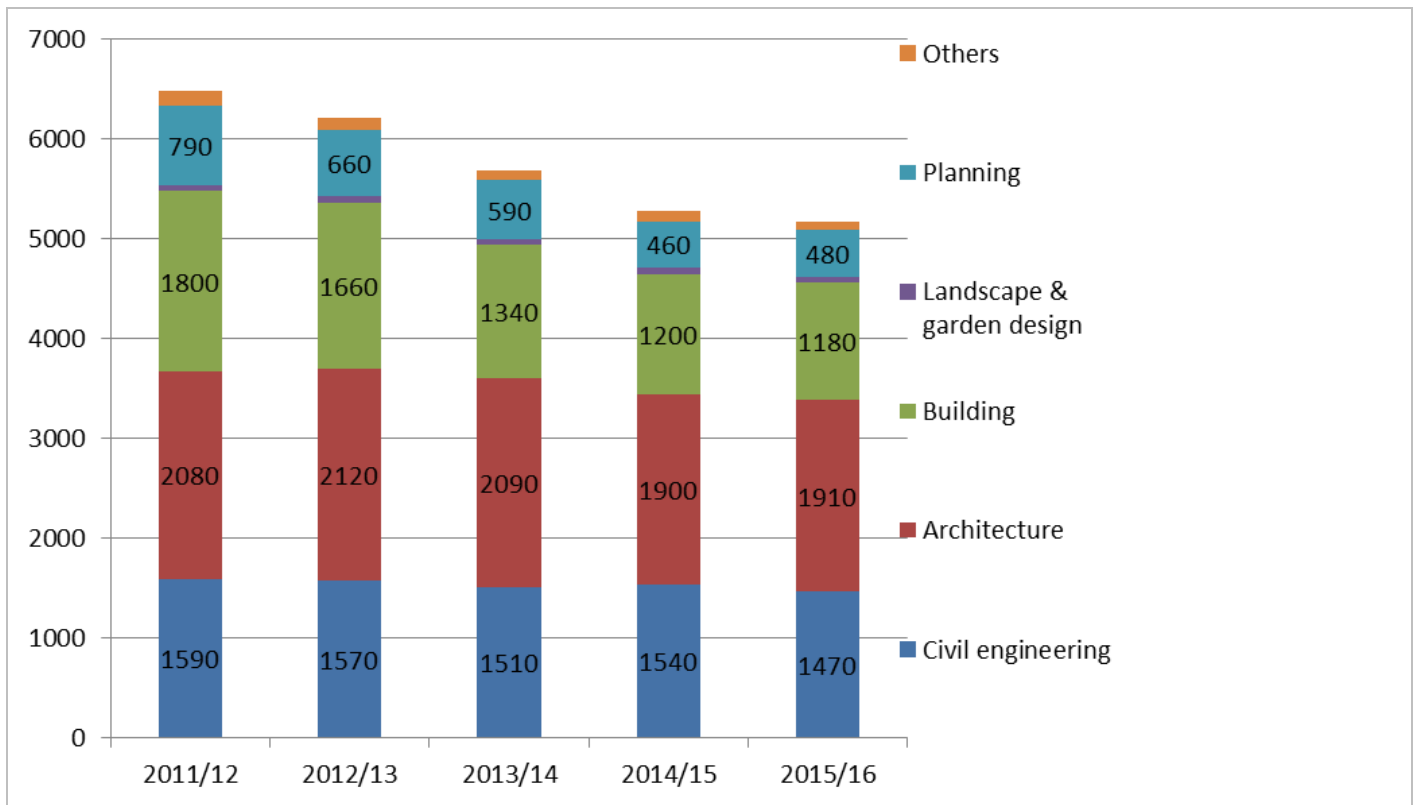


Figure 12: Higher Education achievements per annum in the East Midlands, East and South East (Source: HESA)

Table 13 looks at the spread of Higher Education achievements by qualification area across the institutions in the three regions for the 2015/16 academic year. This highlights that the top 10 providers account for almost three quarters (73%) of achievements in the three regions.

Table 13: Achievements on construction related degree courses at HE institutions in the East Midlands, East and South East – 2015/16 academic year (Source: HESA)

HE provider	Civil engineering	Architecture	Building	Landscape & garden design	Planning	Others	Total
University of Nottingham	220	340	100	0	0	0	660
The Nottingham Trent University	120	150	250	0	0	10	520
Oxford Brookes University	0	270	50	0	160	0	470
The University of Portsmouth	150	190	60	0	10	40	450
Loughborough University	160	10	110	0	50	0	330
Anglia Ruskin University	60	50	200	0	20	0	310
De Montfort University	10	190	0	0	70	0	270
The University of Brighton	90	100	70	0	10	0	270
The University of Surrey	270	0	0	0	0	0	270
The University of Cambridge	20	70	0	0	110	20	220
The University of Reading	0	0	170	0	30	0	210
The University of Kent	0	170	0	0	0	0	170
University of Derby	60	60	40	0	0	0	160
The University of Southampton	160	0	0	0	0	0	160
Southampton Solent University	20	40	80	0	0	0	140
The University of Lincoln	0	130	0	0	0	0	130
Cranfield University	100	0	0	0	0	0	100
Total	1,470	1,900	1,180	50	480	70	5,170

Note only institutions with at least 100 achievements are shown

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.

The majority of qualifiers (85%) are in full-time work in the first six months after leaving. Two-thirds of all the qualifiers (70%) were working in a construction related occupation with the largest share of those working in a construction related occupation working within architectural or engineering activities (70%).

4.5. 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 suggest that:

6. Some more experienced workers are able to move into supervisory roles.
7. Some experienced workers take on a greater variety of occupational skills (and are therefore able to say they have experience working in several occupations)
8. 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.)
9. 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

- Workers in the East Midlands (37%), East (37%) and South East (35%) compared to UK (44%) are least likely to have spent their career in their current region – indicating the high mobility of workers in these regions
- The average (mean) distance from workers' current residence (taking into account temporary residences) to their current site for South East and East was 27 miles which compared to the East Midlands 23 – higher than the UK average of 22 miles which points to higher mobility of workers in these regions
- Around three quarters of construction workers stated confidence that when they finished the job they were on, they would get a job that allows them to travel from their permanent home to work on a daily basis; South East (77%), East (76%) and East Midlands (71%), which compares to the UK average (75%)
- Overall just under half of all construction workers have only worked on one project type; South East (47%), East Midlands (45%) and East (40%) similar to UK average (48%)

5.2. MOBILITY – INTRODUCTION

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 East Midlands, East and South East regions 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 14 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 areas data for the East Midlands, East and South East regions indicates relatively high levels of mobility to neighbouring regions.

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%.

Table 14: 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 East	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%

5.3. WORK HISTORY

The fact that they grew up there/have always lived there and other family reasons are the most likely reasons why construction workers are based within the region/nation they are currently working in (55%). The second main reason for their location is due to their employer sending them there (in 36% of cases). Reasons differ particularly by age and region/nation, with younger workers more likely to say their employer sent them, while older workers are more likely to cite family reasons. The North East has the highest proportion of workers located in the region/nation due to growing up/always living there (80%), the East Midlands (51%), East (50%) and South East (45%) while in London the proportion is significantly lower (35%).

An increased proportion of workers, compared with 2012, have worked within their current region/nation for their entire construction career (44% cf. 33% in 2012) and in total four fifths of construction workers have remained in the current region/nation for all or most of their career (80%).

Workers based in Scotland (63%) and the North East (56%) are most likely to have spent all their career in their current region/nation, while workers in the East Midlands (37%), East of England (37%) and South East (35%) are least likely.

In the majority of cases workers' last construction site is in the same region/nation as they are working in now, however the extent to which this is the case varies considerably by region/nation. Workers based in Scotland (94%), followed the North West (89%), North East (86%) and Northern Ireland (86%) are most likely to have been working in the same region/nation, whilst construction workers in the East Midlands (60%), South East (56%) and East of England (49%) are least likely.

5.4. 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 more than three quarters of all construction workers in the East Midlands were interviewed in the same region in which they were living in when they started their construction career (78%). This compares to 55% in the East and South East regions.

There are great variations by region/nation in terms of whether workers have remained in the same region/nation as they did their first qualification/training in, varying from virtually all of those now based in Northern Ireland (96%) that have remained in the same region/nation, down around two thirds of construction workers in the East Midlands (65%), and around half in South East (55%) and East of England (50%)

5.5. TRAVEL TO SITE

Around half of construction workers have travelled at least 50 miles from their permanent/current home to work in the last 12 months (47%), with a fifth that have travelled more than 100 miles (21%). By region/nation workers in the South East (24%), East (23%) and East Midlands (20%) are most likely to have travelled 100+ miles to work.

Overall 6% of construction workers are currently staying in temporary accommodation while working at their site. The proportion is highest amongst workers based in the East of England (11%), South East (6%) and East Midlands (5%).

The average (mean) distance from workers' current residence (taking into account temporary residences) to their current site was 22 miles which is less than in 2012 when workers travelled an average (mean) of 28 miles. The South East and East region average was 27 which compared to the East Midlands 23. This again reflects the mobility of workers in these areas.

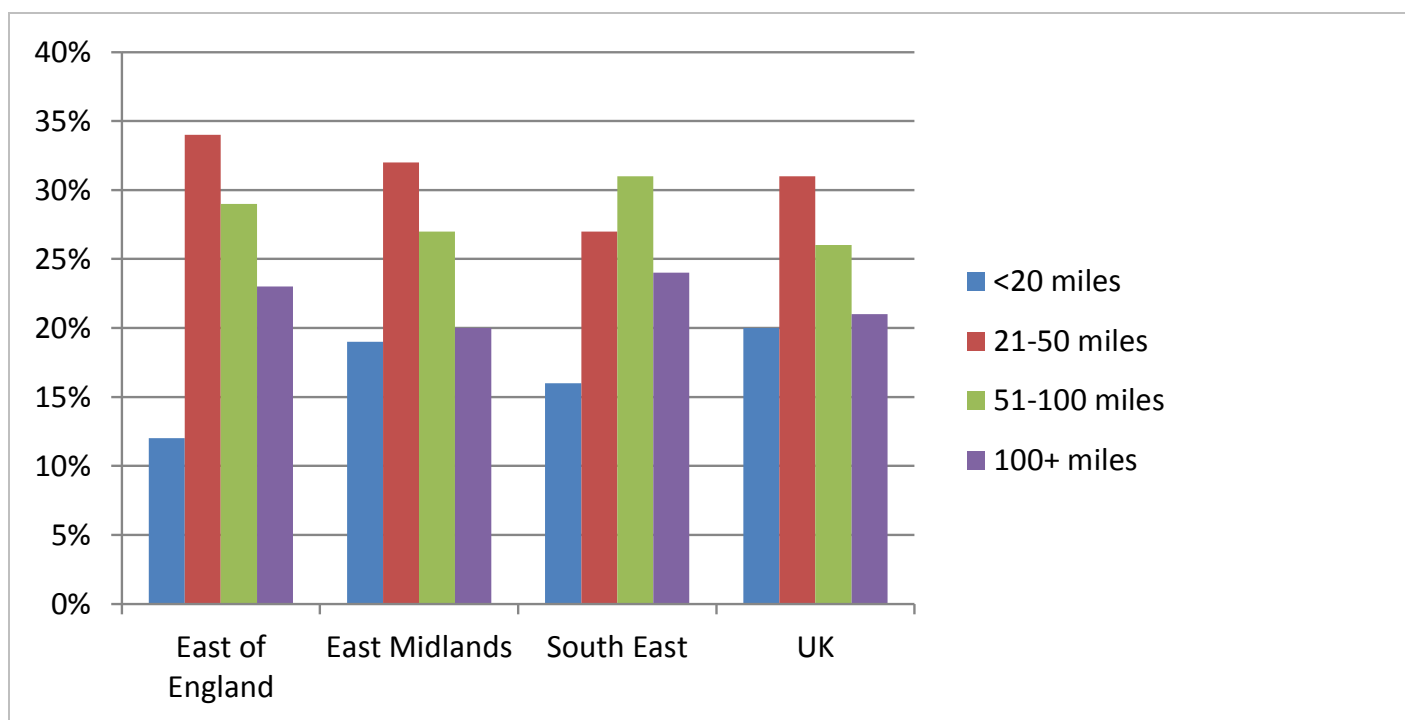


Figure 13: Furthest distance worked in the past 12 months (CITB, 2015)

5.6. 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.

When all respondents were asked to indicate how long in total they expect to work at that specific site during this phase a quarter expect to stay on that site for a year or longer (26%). This compares to 29% in the South East and East Midlands, with 13% in the East. However in a further one quarter of cases (24%) workers do not know how much longer they can expect to be on site, indicating there is still a considerable degree of uncertainty. The level of uncertainty was 23% in the East Midlands, 18% East and 12% South East.

Three quarters of all construction workers are confident that when they finish their current job their next job will allow them to travel to work from their permanent home on a daily basis (75%). This compares to 77% South East, 76% East and 71% in East Midlands,

5.7. SUB SECTOR AND SECTOR MOBILITY

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

Overall nearly half of all construction workers have only worked on one project type (48%), compared with around a quarter in 2012 (24%), which again suggests a pattern of increased stability in the sector. This level was similar across the South East (47%), East Midlands (45%) and East (40%). Northern Ireland was the lowest at 34%. These levels suggest that workers are fairly flexible in terms of the work they undertake.

5.8. 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 five years' time they will still want to be working in construction. Amongst respondents of all ages two fifths say they definitely will be (40%); a further two fifths think it is very or quite likely (42%); 5% consider it unlikely; just 2% say they definitely won't be and a further 4% hope to be retired by then, while 6% don't know.

The only significant variation to these figures across the East Midlands, East and South East was in the East of England where only 24% say they will definitely still be working in construction. This could reflect a slightly more transient labour force in this region.

5.9. MODERN METHODS OF CONSTRUCTION

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. 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. 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 in the UK construction industry and built environment sector](#)

The report, published in July 2018, found that while more employers are feeling the impact of Brexit, less than a third have taken action or plan to do so as it approaches. The report updates CITB's previous 2017 migration research.

5.11. 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:

- Scaffolders
- Architects
- Painters and decorators
- Roofers
- Construction Trades Supervisors
- Non-construction operatives
- Construction project managers

Occupations at medium risk of shortfall include:

- Wood trades and interior fit-out
- Glaziers
- Plumbing and HVAC trades
- Bricklayers
- Building envelope specialists
- Floorers
- Senior, executive and business process managers

6.2. INTRODUCTION TO GAP ANALYSIS

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 South East Midlands area, whereas the supply figures are an extrapolation of data for the East Midlands, South East and East of England.

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.

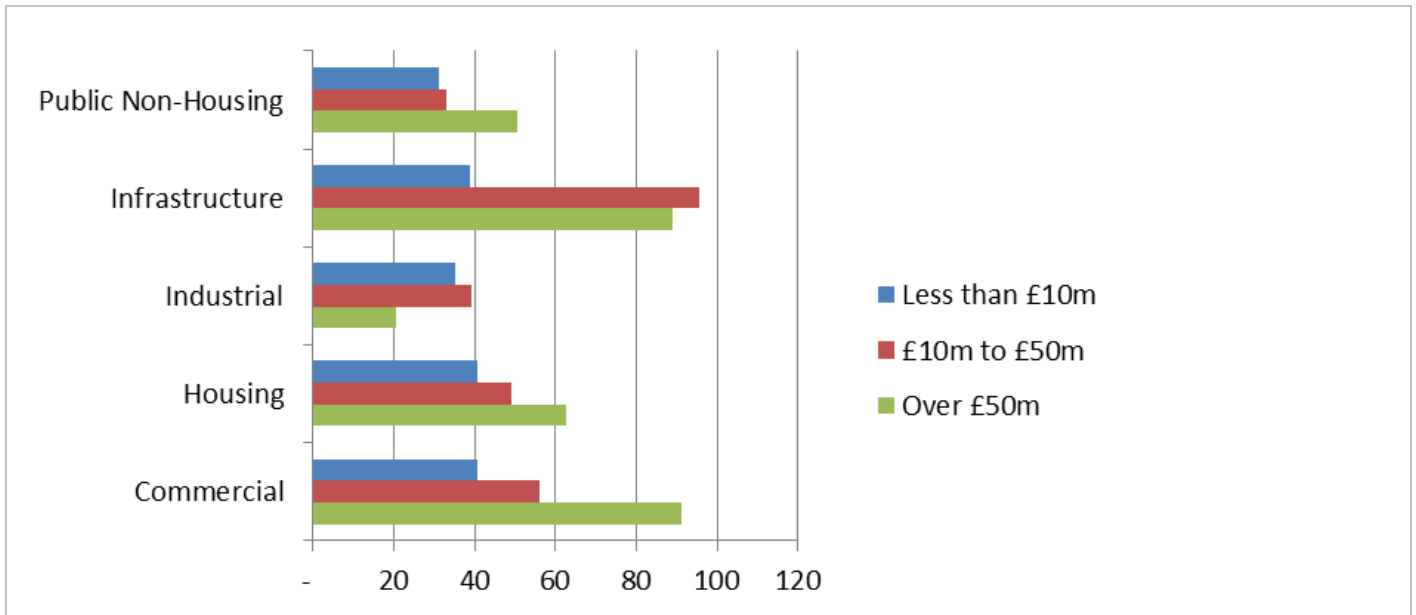


Figure 14: Average number of weeks from planning to work on site, UK 2010-2013 (Source: UKCG/Glenigan)

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.

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.

6.3. GAP ANALYSIS

With current construction employment in the South East Midlands area estimated at 65,200, the identified demand forecast for 2018 from projects in Glenigan accounts for 133% of current employment, before reducing in later years as current visibility for future identified projects decreases. Current employment and demand by occupation for 2018 is shown in Table 15.

Table 15: Occupational breakdown of demand for South East Midlands area against current employment

Occupation	South East Midlands area - 2018 Demand	Risk rating: shortfall 2018
SKILLED TRADES		
Wood trades and interior fit-out	9,380	1.39
Electrical trades and installation	6,250	1.25
Plumbing and HVAC Trades	5,760	1.38
Labourers nec*	4,150	1.24
Painters and decorators	4,580	1.82
Building envelope specialists	3,820	1.32
Bricklayers	2,390	1.38
Specialist building operatives nec*	2,010	1.31
Plasterers	1,910	1.26
Roofers	1,800	1.73
Plant mechanics/fitters	1,130	1.13
Plant operatives	1,100	1.04
Glaziers	1,180	1.39
Floorers	1,010	1.32
Scaffolders	790	2.08
Civil engineering operatives nec*	410	0.92
Logistics	670	1.06
Steel erectors/structural fabrication	680	1.19
MANAGEMENT & PROFESSIONAL ROLES		
Other construction process managers	6,090	1.25
Senior, executive, and business process managers	5,810	1.31
Other construction professionals and technical staff	5,340	1.23
Surveyors	1,980	1.28
Construction Trades Supervisors	1,550	1.73
Civil engineers	1,360	1.01
Construction Project Managers	1,500	1.39
Architects	1,330	1.91
OFFICE BASED ROLES		
Non-construction professional, technical, IT, and other office-based staff	11,700	1.29
Non-construction operatives	1,040	1.44
	86,720	1.33

Source: CITB/WLC

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

RAG rating: 0 to 1.23 = Blue; 1.23 to 1.31 = Amber; 1.31 to 1.38 = Amber Red; 1.38+ = Red

Table 15 shows that there are 24 occupations where there is a risk that demand is likely to either meet or outstrip current employment estimates. These occupations show a relatively high 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 South East Midlands 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 risks appear most likely to be:

Among professional and managerial roles:

- Architects
- Construction trade supervisors
- Construction project managers

Among skilled trades:

- Scaffolders
- Painters and decorators
- Roofers
- Non construction operatives
- Glaziers
- Wood trades and interior fit out
- Plumbing and HVAC trades
- Bricklayers

6.4. CONSTRUCTION SPECIFIC OCCUPATIONS

Demand for Architects (as well as Construction Project Managers) is a reflection of the wider UK shortage. 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 South East Midlands area from neighbouring regions 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 South East Midlands 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 86,720 in 2018.

6.5. 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 16 details the annual Average Recruitment Requirement (ARR) which can be used to give an indication of long term demand in the South East Midlands area. However, 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 16: Occupational breakdown of ARR for East Midlands, South East and East regions as a whole (Source: CITB)

Occupation	2016 Employment (East Midlands, East and South East combined)	ARR 2018-2022 (East Midlands, East and South East combined)	ARR as % of Current Employment
Other construction process managers	59,670	990	1.7%
Other construction professionals and technical staff	57,990	910	1.6%
Painters and decorators	32,570	770	2.4%
Non-construction professional, technical, IT, and other office-based staff	110,420	530	0.5%
Electrical trades and installation	58,890	450	0.8%
Civil engineers	16,050	420	2.6%
Wood trades and interior fit-out	80,620	400	0.5%
Labourers nec*	41,430	390	0.9%
Senior, executive, and business process managers	54,000	360	0.7%
Logistics	7,460	350	4.7%
Construction Project Managers	14,120	320	2.3%
Construction Trades Supervisors	11,700	320	2.7%
Specialist building operatives nec*	17,780	290	1.6%
Surveyors	18,450	280	1.5%
Plant operatives	11,710	260	2.2%
Architects	9,750	250	2.6%
Scaffolders	5,120	200	3.9%
Plumbing and HVAC Trades	51,620	200	0.4%
Bricklayers	20,550	170	0.8%
Roofers	13,960	130	0.9%
Steel erectors/structural fabrication	6,730	130	1.9%
Plasterers	16,270	90	0.6%
Civil engineering operatives nec*	4,510	80	1.8%
Floorers	9,440	70	0.7%
Glaziers	9,700	70	0.7%
Plant mechanics/fitters	11,230	50	0.4%
Building envelope specialists	35,930	30	0.1%
Total	795,080	1,720	0.2%

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

- Scaffolders
- Construction trades supervisors
- Architects

The 2018-2022 ARR also identifies two other occupations with a high requirement:

- Logistics
- Civil engineers

For logistics, scaffolders, construction trades supervisors, architects and civil engineers the ARR as a percentage of current employment is notably above the 2.5% level at 4.7%, 3.9%, 2.7%, 2.6% and 2.6% respectively, which indicates potential occupational pressure to meet forecasted demand.

6.6. GAP ANALYSIS TRAINING NEEDS

In the South East Midlands area there appears to be limited training compared to demand for scaffolders, painters and decorators, roofers, construction trades supervisors, construction project managers, building envelope specialists, plasterers, other construction professionals, steel erectors / structural fabrication and plant mechanics.

For some of these occupations there is training available in the neighbouring regions. Training provision at Higher Education level across the wider neighbouring regions is broadly in line with demand.

Table 17 provides a summary of the gap analysis datasets.

6.7. GAP ANALYSIS SUMMARY

Table 17 draws together all of the gap analysis information. The column risk rating shortfall compares forecast demand to supply, ARR risk rating highlights occupations with ARR >2.5% current employment, estimated training supply is a qualitative assessment as to whether training in the locality is high, medium or low compared to forecast demand. An assessment of this data is made to provide an overall risk rating – high, medium or low risk of shortfall for each occupation.

Table 17: Occupational gap analysis summary table (Source: CITB)

Occupation	Risk rating: shortfall 2018	ARR Risk rating	Estimated Training Supply South East Midlands Area	Estimated Training Supply East Midlands, East and South East	Overall Risk Rating
Scaffolders	2.08	3.9%	Low provision	Medium provision	High
Architects	1.91	2.6%	-	High provision	Medium
Painters and decorators	1.82		Low provision	High provision	High
Roofers	1.73		Low provision	Low provision	High
Construction Trades Supervisors	1.73	2.7%	Low provision	Medium provision	Medium
Non-construction operatives	1.44				Limited data
Construction Project Managers	1.39		Low provision	Low provision	Medium
Glaziers	1.39		Medium provision	Medium provision	Medium
Wood trades and interior fit-out	1.39		High provision	High provision	Medium
Plumbing and HVAC Trades	1.38		High provision	High provision	Medium
Bricklayers	1.38		Medium provision	High provision	Medium
Floorers	1.32		High provision	High provision	Low
Building envelope specialists	1.32		Low provision	Medium provision	High
Senior, executive, and business process managers	1.31				Limited data
Specialist building operatives nec*	1.31		Medium provision	High provision	Medium
Non-construction professional, technical, IT, & office-based staff	1.29				Limited data
Surveyors	1.28		-	High provision	Medium
Plasterers	1.26		Low provision	Medium provision	Medium
Electrical trades and installation	1.25		High provision	High provision	Low
Other construction process managers	1.25				Limited data
Labourers nec*	1.24				Limited data
Other construction professionals and technical staff	1.23		Low provision	Medium provision	Low
Steel erectors/structural fabrication	1.21		Low provision	Low provision	High
Plant mechanics/fitters	1.13		Low provision	Medium provision	Low
Logistics	1.06	4.7%	Low provision	Low provision	Low
Plant operatives	1.04		High provision	High provision	Low
Civil engineers	1.01	2.6%	-	High provision	Low
Civil engineering operatives nec*	0.92		High provision	High provision	Low

The occupations at high risk of shortfall include:

- Scaffolders
- Painters and decorators
- Roofers
- Building envelope specialists
- Steel erectors/structural fabrication

Occupations at medium risk of shortfall include:

- Architects
- Construction trades supervisors
- Construction project managers
- Glaziers
- Wood trades and interior fit-out
- Plumbing and HVAC trades
- Bricklayers
- Specialist building operatives
- Surveyors
- Plasterers

The findings from this report are based on an assessment of the various datasets and should not be interpreted as conclusive. It is recommended that there is further discussion with local stakeholders to validate them further.

7. CONCLUSIONS AND RECOMMENDATIONS

The aim of SEMLEP should be to address the immediate and long term challenges of the construction industry in its area. This should be based on the evidence presented in this report as well as other forms of information that the LEP may have access to. The LEP should target balancing the supply of construction workers and skills against future demand. It should also ensure that a well-qualified workforce is in place which is likely to be assisted by the LEP 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 strong evidence to suggest that the SEMLEP area will suffer a shortage of most critical construction occupations. While these may be drawn in from others areas, 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.

It is the responsibility of the LEP, 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 SEMLEP 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

There are five main recommendations:

1. The development of a construction skills strategy action plan
2. Greater collaboration
3. Outreach and promoting the image of the construction sector
4. Develop training and careers pathways and future skills
5. Use procurement to achieve wider benefits

7.1. SKILLS STRATEGY ACTION PLAN

Conclusion

The report presents a number of important findings for the construction sector in the SEMLEP area. Based on the findings it is imperative that the LEP use the information in this report in order to begin to outline a skills strategy action plan for the sector. The report is a comprehensive assessment of the construction sector within the LEP area and regions with a focus on the quantitative elements, therefore in order for the LEP to make complete and well-rounded decisions; it is likely that local stakeholder's knowledge will be critical to providing further qualitative evidence about the construction sector in the SEMLEP.

Cognizance of demands from neighbouring areas

In comparison with other areas assessed by CITB in previous reports the SEMLEP area looks likely to suffer shortages of more occupations and to a greater extent. This is likely to be compounded by the SEMLEP area's location between Birmingham and London both of which exert a significant demand on their neighbouring areas for construction workers.

Recommendations

- i. As a starting point, the LEP should prioritise those occupations found to have the greatest risk of a shortage between supply and demand, however this should be in the context of demand as well as the training provision. The LEP should consult all parts of the report in order to create a holistic skills action plan to ensure that the most labour shortage areas are addressed first. As with most LEPs, new housing makes up a significant part of the new construction pipeline, new housing is very labour intensive and so it is imperative to ensure sufficiently skilled labour is available to carry out the LEP's plans.
- ii. 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.
- iii. 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.
- iv. The potential for further workforce shortages to occur is probably greater than the contrary and it is likely that BREXIT will mean that the LEP will need to work with stakeholders to focus on recruiting a largely UK-based workforce in the future. As a result, modern building methods should be investigated in order to solve or alleviate the housing supply issue. The LEP should investigate whether modular building can become an attribute to the SEMLEP area; improving productivity and efficiency in the sector. This may not solve the problem of high skills gaps however it could contribute to reducing the dependency on traditional occupations in the SEMLEP.

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 SEMLEP 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 operate 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 & decorators; plasterers & dry liners; plumbing and HVAC trades; roofers; wood trades and interior fit-out.

- v. 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.
- vi. 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.)

7.2. GREATER COLLABORATION

Conclusion

It will be essential to ensure that those interested in construction and with an influence over outputs and construction skills in the SEMLEP 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.

Recommendations

- i. The evidence in this report concludes that skill gaps will occur in current and future years. This will affect a number of occupations in both manual and non-manual categories. The LEP should seek to engage and collaborate with neighbouring LEPS and Combined Authorities in order to better understand the dynamics in terms of labour shortages. The LEP may be able to share resources and utilise the evidence neighbouring local government institutions obtained. This will enable the LEP to be able to evaluate its current shortages in context of a wider regional context and create and ensure collaborative holistic plans are built. The LEP needs to ensure that shortages and excesses in the supply are communicated to neighbouring local authorities/LEPs in order for gaps to be affectively evaluated and managed.
- ii. This LEP would benefit from greater engagement with smaller businesses in order to capture the variety that exists within the construction sector. The LEP in collaboration with CITB should seek to influence and change the current culture around training and skills in businesses in order to increase the overall volume of training in the LEP area. By sharing this evidence and working with businesses the LEP will be better placed to help solve problems that may exist for businesses operating within the SEMLEP area. The aim is to help combat issues and improve the overall quality and productivity of the construction industry.
- iii. The involvement and collaboration with the academic institutions is essential to the construction sector; particularly as the LEP engages in forward planning. It is important for the LEP to understand trends and statistics among institutions so that it can target resources towards areas that need to be enhanced and developed. This can be new forums such as the constructions Wales's innovation forum which will seek to provide approximately training for over 1000 individual's annually. The education division is central to the development of a highly skilled workforce. It is therefore imperative that the LEP work with Further Education colleges and universities in order to improve the skills set within its area. Greater collaboration should be encouraged between colleges, particularly in an environment where the number of construction starts has been falling in the LEP.

7.3. PROMOTING THE CONSTRUCTION SECTOR

Conclusion

The construction sector in the UK has developed a negative image over a time; particularly related to the trade/manual occupations. This is not only demonstrated by the reduction in the number of construction related courses set up by colleges but also by overall increases in the number of students attending non-construction related courses at university. Anecdotal evidence suggests that construction related subjects and courses are often presented to individuals at school who are less likely to perform as well as the average student.

Recommendations

- i. It is imperative for the LEP to engage with schools located within the LEP area particularly at primary school level when children are learning about different career possibilities. Secondary school is also a key place to disseminate information equipping students with the correct information about the construction sector, so that they can make informed decisions when deciding on their career path. The Go Construct website (www.goconstruct.org) details and outlines the plethora of occupations that are available to peruse. The construction industry provides many occupations for all levels of competency and talents and this message needs to be filtered through to students, pre-college and university, in order to increase the demand of courses within the SEMLEP area.
- ii. The LEP should consider initiatives that would encourage individuals from under-represented groups in construction such as women and ethnic minorities. Women in particular represent a very small proportion of construction workers and so encouraging them into the sector would not only increase diversity in the sector but it would also increase the size of the workforce which would help to combat and reduce skills shortages in the area. There are also other groups in society who may be at a

disadvantage for future employment. These include ex-offenders or those that have been in long term unemployment. The LEP may benefit from engaging with prisons and job centres in the area in order to formulate strategies to encourage these individuals into the construction industry; with a particular focus on occupations where there appears to be large gaps.

- iii. That LEP could try to pinpoint other industries where individuals have relevant construction skills. As demand for housing grows, stakeholders involved in building housing may move away from traditional build and move towards more off-site production. If this occurs, then it is even more imperative to attract those will skills that would be transferable to off-site construction methods. There are already a number of occupations such as logistics which may have a risk of a shortfall. Promoting the construction sector to these individuals in other sectors may reduce a shortfall in the future. It must be noted that modular housing should not be seen as a direct alternative to traditional housing because although less labour intensive, not only does it require a variety of different skills but it is also quite costly and so would not necessarily alleviate the cost pressures associated with the industry.

7.4. DEVELOP FUTURE SKILLS AND TRAINING PATHWAYS

7.4.1. 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.

7.4.2. 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. 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.
- d. 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:
- e. A common complaint of construction employers, that is – new starters are insufficiently-often ‘site ready’ so a curriculum might including working with employers to enhance new starters’ site readiness and behaviours.
- f. Address any anticipated specific local needs and ensure that training delivers what employers need as part of a complete package of training initiatives.
- g. 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).
- h. 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 SEMLEP area and further afield and that will increasingly need to utilise developing technology e.g. Building Information Modelling (BIM).

- i. 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 worksites. This is particularly relevant for remote and sparsely populated places.
- j. Barriers to businesses may also exist, particularly in upskilling workers. 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 working with CITB and partners to pursue funding that can be utilised to support delivery of new training interventions.

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

- I. 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 SEMLEP area, to achieve both good value for money and wider social benefits.
- II. Provision could be required to hold contractors to account for commitments made. Such an approach could be co-ordinated through the SEMLEP stakeholders and local authorities and be a requirement of planning applications and local authority and public sector contracts.
- III. 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).
- IV. 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.
- V. 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 SEMLEP area.
- VI. 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. MAINTAIN 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.

Regularly update the evidence base that supports decision making as circumstances change and to demonstrate construction pipeline opportunities. 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.

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CITB Analysis

Construction skills gap analysis for the South East Midlands area



Appendices to the Construction skills gap analysis for the South East Midlands area

June 2018



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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
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 LEP 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:

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

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 LEP level, it is assumed that the proportion of the total output represented by housing R&M is the same at the LEP 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:

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

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 managers³	
(1115) Chief executives and senior officials (1131) Financial managers and directors (1132) Marketing and sales directors (1133) Purchasing managers and directors (1135) Human resource managers and directors (1251) Property, housing and estate managers (1136) Information technology and telecommunications directors (2150) Research and development managers	(1162) Managers and directors in storage and warehousing (1259) Managers and proprietors in other services nec (1139) Functional managers and directors nec (2133) IT specialist managers (2134) IT project and programme managers (3538) Financial accounts managers (3545) Sales accounts and business development managers
2 Construction project managers³	
(2436) Construction project managers and related professionals	
3 Other construction process managers³	
(1121) Production managers and directors in manufacturing (1122) Production managers and directors in construction (1161) Managers and directors in transport and distribution (1255) Waste disposal and environmental services managers	(3567) Health and safety officers (3550) Conservation and environmental associate professionals
4 Non-construction professional, technical, IT, and other office-based staff (excl. managers)³	
(3131) IT operations technicians (3132) IT user support technicians (3534) Finance and investment analysts and advisers (3535) Taxation experts (3537) Financial and accounting technicians (3563) Vocational and industrial trainers and instructors (3539) Business and related associate professionals nec (3520) Legal associate professionals (3565) Inspectors of standards and regulations (2136) Programmers and software development professionals (2139) Information technology and telecommunications professionals nec (3544) Estate agents and auctioneers (2413) Solicitors (2419) Legal professionals nec (2421) Chartered and certified accountants (2424) Business and financial project management professionals (2423) Management consultants and business analysts (4216) Receptionists (4217) Typists and related keyboard occupations (3542) Business sales executives (4122) Book-keepers, payroll managers and wages clerks (4131) Records clerks and assistants (4133) Stock control clerks and assistants (7213) Telephonists (7214) Communication operators (4215) Personal assistants and other secretaries (7111) Sales and retail assistants (7113) Telephone salespersons	(3541) Buyers and procurement officers (3562) Human resources and industrial relations officers (4121) Credit controllers (4214) Company secretaries (7129) Sales related occupations nec (7211) Call and contact centre occupations (7219) Customer service occupations nec (9219) Elementary administration occupations nec (2111) Chemical scientists (2112) Biological scientists and biochemists (2113) Physical scientists (3111) Laboratory technicians (3421) Graphic designers (2463) Environmental health professionals (2135) IT business analysts, architects and systems designers (2141) Conservation professionals (2142) Environment professionals (2425) Actuaries, economists and statisticians (2426) Business and related research professionals (4124) Finance officers (4129) Financial administrative occupations nec (4138) Human resources administrative occupations (4151) Sales administrators (4159) Other administrative occupations nec (4162) Office supervisors (7130) Sales supervisors (7220) Customer service managers and supervisors (4161) Office managers

³ Managerial, professional & office based staff

5 Construction trades supervisors⁴	
(5250) Skilled metal, electrical and electronic trades supervisors (5330) Construction and building trades supervisors	
6 Wood trades and interior fit-out⁴	
(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 Bricklayers⁴	
(5312) Bricklayers and masons	
8 Building envelope specialists⁴	
(5319) Construction and building trades nec (50%)	
9 Painters and decorators⁴	
(5323) Painters and decorators	(5319) Construction and building trades nec (5%)
10 Plasterers⁴	
(5321) Plasterers	
11 Roofers⁴	
(5313) Roofers, roof tilers and slaters	
12 Floorers⁴	
(5322) Floorers and wall tillers	
13 Glaziers⁴	
(5316) Glaziers, window fabricators and fitters	(5319) Construction and building trades nec (5%)
14 Specialist building operatives not elsewhere classified (nec)⁴	
(8149) Construction operatives nec (100%) (5319) Construction and building trades nec (5%)	(9132) Industrial cleaning process occupations (5449) Other skilled trades nec
15 Scaffolders⁴	
(8141) Scaffolders, staggers and riggers	
16 Plant operatives⁴	
(8221) Crane drivers (8129) Plant and machine operatives nec	(8222) Fork-lift truck drivers (8229) Mobile machine drivers and operatives nec
17 Plant mechanics/fitters⁴	
(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 fabrication⁴	
(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 nec⁴	
(9120) Elementary construction occupations (100%)	
20 Electrical trades and installation⁴	
(5241) Electricians and electrical fitters (5249) Electrical and electronic trades nec	(5242) Telecommunications engineers
21 Plumbing and heating, ventilation, and air conditioning trades⁴	
(5314) Plumbers and heating and ventilating engineers (5216) Pipe fitters	(5319) Construction and building trades nec (5%) (5225) Air-conditioning and refrigeration engineers
22 Logistics⁴	
(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

⁴ Skilled trades & operatives

23 Civil engineering operatives not elsewhere classified (nec)⁴	
(8142) Road construction operatives	(8123) Quarry workers and related operatives
(8143) Rail construction and maintenance operatives	
24 Non–construction operatives⁴	
(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 engineers³	
(2121) Civil engineers	
26 Other construction professionals and technical staff³	
(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 Architects³	
(2431) Architects	
28 Surveyors³	
(2433) Quantity surveyors	
(2434) Chartered surveyors	

APPENDIX C. GLENIGAN PROJECTS REMOVED FROM SOUTH EAST MIDLANDS

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 South East Midlands

	Heading	Local authority	Value (£m)	Start date	End date	Reason for omission
1	School	Cherwell	0.1			Missing dates
2	4 Flats & 1 Retail/Office	Northampton	0.3			Missing dates
3	Electricity Generation Facility	South Northamptonshire	0.3			Missing dates
4	School	Bedford	0.3			Missing dates
5	Office (Extension)	Northampton	0.3			Missing dates
6	University Teaching Accommodation	Aylesbury Vale	0.3			Missing dates
7	5 Portable Office/Classroom Buildings	Northampton	0.3			Missing dates
8	Storage Unit (Extension)	South Northamptonshire	0.3			Missing dates
9	School	Bedford	0.4			Missing dates
10	Church (Extension)	Cherwell	0.4			Missing dates
11	5 Industrial Units	Central Bedfordshire	0.4			Missing dates
12	Islamic Centre Mezzanine Floor (Alterations)	Luton	0.4			Missing dates
13	Shopping Centre (Extension/Alterations)	Northampton	0.4			Missing dates
14	Storage Office (Extension)	Daventry	0.4			Missing dates
15	Day School Building	Bedford	0.5			Missing dates
16	4 Tennis Courts	Aylesbury Vale	0.5			Missing dates
17	3 ATF Testing Centre/Vehicle Store/Lorry Wash Buildings	Bedford	0.5			Missing dates
18	Community & Sports Facility	Daventry	0.5			Missing dates
19	Storage Building (Extension)	Daventry	0.6			Missing dates
20	Car Storage	Northampton	0.6			Missing dates
21	Holiday Village	Bedford	0.7			Missing dates
22	Office Building	Cherwell	0.7			Missing dates
23	Sports Pavilion	Aylesbury Vale	0.7			Missing dates
24	14 Flats	Northampton	0.7			Missing dates
25	Industrial Unit (Extension)	Corby	0.7			Missing dates
26	14 Flats (Alterations)	Milton Keynes	0.7			Missing dates
27	14 Flats	Northampton	0.7			Missing dates
28	School (Extension)	Cherwell	0.7			Missing dates
29	14 Flats & 1 Shop/Office	Luton	0.8			Missing dates
30	14 Assisted Living Flats & 1 Care Home	Aylesbury Vale	0.8			Missing dates
31	Sports Hall (Extension/Alterations)	Cherwell	0.8			Missing dates
32	Church Hall	Milton Keynes	0.9			Missing dates
33	Electricity Generation Facility	Aylesbury Vale	0.9			Missing dates
34	Office Building	Milton Keynes	0.9			Missing dates
35	Roundabout/Highway Improvement Works	Cherwell	1.0			Missing dates

36	Temporary Flying School/Club Building	Aylesbury Vale	1.1		Missing dates
37	School Nursery/Teaching Building (Extension)	Aylesbury Vale	1.2		Missing dates
38	Fire Station	Central Bedfordshire	1.2		Missing dates
39	Machinery Workshop Building	Daventry	1.2		Missing dates
40	School Performance Hall/Music School (Extension)	Daventry	1.2		Missing dates
41	Waste Transfer Station	Milton Keynes	1.2		Missing dates
42	Office (Extension)	Milton Keynes	1.2		Missing dates
43	5 Retail Units & 1 Convenience Store	Aylesbury Vale	1.3		Missing dates
44	17 Houses	South Northamptonshire	1.3		Missing dates
45	3 Industrial Units	Cherwell	1.3		Missing dates
46	2 Office Buildings	Central Bedfordshire	1.3		Missing dates
47	Warehouse	Corby	1.4		Missing dates
48	11 Flats & 6 Houses (Conversion/Extension)	Central Bedfordshire	1.4		Missing dates
49	Spine Road Development	Cherwell	1.5		Missing dates
50	Light Industry/Warehouse Facility	Kettering	1.5		Missing dates
51	Food Industry (Extension)	Northampton	1.5		Missing dates
52	Car Dealership	Corby	1.6		Missing dates
53	Veterinary Practice & Administrative Centre	South Northamptonshire	1.7		Missing dates
54	23 Houses	Corby	1.7		Missing dates
55	School (Extension)	Cherwell	1.8		Missing dates
56	Nursing Home (Extension/Alterations)	Daventry	1.9		Missing dates
57	25 Houses/1 Depot & Offices (New/Alterations)	Aylesbury Vale	2.0		Missing dates
58	62 Flats (Conversion)	Milton Keynes	2.0		Missing dates
59	33 Houses & Flats	Milton Keynes	2.5		Missing dates
60	48 Flats & 4 Shops	Luton	2.6		Missing dates
61	Industrial Unit	Aylesbury Vale	2.9		Missing dates
62	60 Flats & 2 Commercial Units	Luton	3.1		Missing dates
63	Training Centre & Care home (New/Conversion)	Bedford	3.5		Missing dates
64	2 Office Buildings	Northampton	3.6		Missing dates
65	Hotel & Petrol Station	Corby	4.0		Missing dates
66	53 Holiday Chalets	Bedford	4.0		Missing dates
67	Residential Care Home	Bedford	4.3		Missing dates
68	Elderly Care Home	Cherwell	4.6		Missing dates
69	School Classrooms/Sports Centre(New/Extension)	Aylesbury Vale	4.7		Missing dates
70	Solar Farm	Aylesbury Vale	5.0		Missing dates
71	Local Roads	Corby	5.0		Missing dates
72	Office & Industrial Unit (Extension)	Aylesbury Vale	5.4		Missing dates
73	4 Commercial Units & 1 Flat	Milton Keynes	5.9		Missing dates
74	Office Block (Hospital)	Luton	6.0		Missing dates
75	Care Home	South Northamptonshire	6.0		Missing dates
76	Hotel & Office Building	Milton Keynes	6.7		Missing dates

77	9 Office Units/5 Storage & Distribution Units	Bedford	6.8			Missing dates
78	103 Flats (Conversion/Extension)	Northampton	7.4			Missing dates
79	Asbestos Removal	Milton Keynes	8.0			Missing dates
80	Waste Transfer Station	Central Bedfordshire	10.0			Missing dates
81	151 Residential & 1 Employment Unit/1 Community Hall	Central Bedfordshire	10.7			Missing dates
82	Office	Milton Keynes	22.8			Missing dates
83	Factory Development	Corby	32.0			Missing dates
84	Distribution Unit	Bedford	40.0			Missing dates
85	Administration Building/Warehouse & Commercial Units	South Northamptonshire	59.5			Missing dates
86	Hospital Redevelopment	Luton	150.0			Missing dates
87	704 Residential/Commercial Units	East Northamptonshire	59.4			Missing dates
88	700 Residential/College/Employment Units	East Northamptonshire	42.7			Missing dates
89	College Campus Buildings	Wellingborough	16.0			Missing dates
90	Road Improvements	East Northamptonshire	7.0			Missing dates
91	75 Residential Units	Wellingborough	5.6			Missing dates
92	Hotel	East Northamptonshire	4.4			Missing dates
93	School Teaching Block (Extension)	Wellingborough	3.6			Missing dates
94	Agricultural Building	East Northamptonshire	1.5			Missing dates
95	24 Flats (Conversion)	Wellingborough	1.2			Missing dates
96	Place Of Worship	Wellingborough	1.0			Missing dates
97	14 Flats (Conversion)	Wellingborough	0.7			Missing dates
98	Offices (Extension)	East Northamptonshire	0.4			Missing dates
99	Property Professional & Technical Services Framework	Bedford	100.0	19/06/2014	19/06/2018	Consultancy
100	Multidisciplinary Services Framework	Bedford	100.0	03/11/2014	29/10/2018	Consultancy
101	Strategic Development Consultant Services	Bedford	40.0	01/09/2015	04/09/2018	Consultancy
102	Construction Consultancy Services Framework.	Northampton	5.0	07/09/2015	03/09/2018	Consultancy
103	Contractors & Consultancy Services Framework	Central Bedfordshire	50.0	04/06/2018	01/06/2026	Consultancy
104	Retail Design Management Framework	Luton	0.4	15/01/2018	28/10/2019	Consultancy
105	Structural Engineering Framework	Milton Keynes	80.5	10/09/2018	05/09/2022	Consultancy
106	Bypass	Kettering	38.5	08/10/2018	18/06/2021	In NICIP
107	Road Overbridge	Central Bedfordshire	29.5	02/07/2018	06/01/2020	In NICIP
108	Passenger Transit System	Luton	119.0	30/04/2018	25/10/2021	In NICIP
109	Multi Storey Car Park	Luton	20.0	04/06/2018	03/02/2020	In NICIP
110	Airport (Refurbishment)	Luton	4.0	12/06/2018	12/07/2019	In NICIP
111	Civils Works & Maintenance Framework	Luton	6.0	01/07/2018	01/07/2023	In NICIP
112	Gravity Sewer Works	South Northamptonshire	0.9	14/05/2018	18/02/2019	In NICIP
113	142 Houses	Wellingborough	10.7	01/06/2015	01/06/2018	Duplicate

APPENDIX D. SIGNIFICANT GLENIGAN PROJECTS IN SOUTH EAST MIDLANDS

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 South East Midlands

	Description	Local authority	Value (£m)	Start date	End date	Project type
1	3,200 Houses & Employment	Wellingborough	491.1	01/06/2015	01/06/2021	New housing, Public Non-housing
2	5,500 Houses/5 Schools	East Northamptonshire	316.8	01/07/2017	01/07/2021	New housing, Public Non-housing
3	Construction Framework	Northampton	221.2	17/04/2015	19/04/2019	Public Non-housing
4	685 Flats & 3 Commercial Units	Luton	209.1	03/05/2016	03/05/2021	New housing, Private Commercial, Public Non-housing
5	Delivery Partner Panel framework	Bedford	209.0	01/08/2017	03/08/2021	New housing
6	Industrial Units	Corby	191.5	01/06/2016	01/06/2020	Private Industrial
7	Housing Repair & Maintenance Contract	Central Bedfordshire	190.0	27/03/2019	27/03/2034	Housing R&M
8	Rail Tunnels	South Northamptonshire	186.4	12/11/2018	12/11/2023	Infrastructure
9	Residential Development	Milton Keynes	180.4	30/11/2015	28/11/2025	New housing
10	35000 Residential Units	East Northamptonshire	180.4	22/11/2018	18/11/2032	New housing
11	Street Lighting	Northampton	178.9	04/08/2011	04/11/2019	Infrastructure
12	Public Highways Work (New/Maintenance)	Milton Keynes	155.5	01/04/2014	01/04/2024	Infrastructure
13	Housing (Refurbishment)	Northampton	150.0	17/07/2017	17/07/2024	Housing R&M
14	10 Storage & Distribution Units	Bedford	148.0	24/09/2018	24/03/2019	Private Industrial
15	Resource Recovery Facility	Central Bedfordshire	136.1	10/12/2018	10/12/2020	Infrastructure
16	Highways Maintenance	Luton	124.4	16/11/2015	20/11/2026	Infrastructure
17	3000 Homes	Wellingborough	120.9	07/06/2018	08/06/2023	New housing, Private Commercial, Public Non-housing
18	2500 Homes & Employment Development	East Northamptonshire	116.7	31/10/2018	30/06/2030	New housing, Private Commercial, Public Non-housing
19	Asset Management Framework	Bedford	116.6	02/03/2011	02/06/2019	Housing R&M
20	1850 Residential Units & 4 Commercial/Retail Units	Milton Keynes	114.7	20/11/2018	17/12/2019	New housing, Private Commercial, Infrastructure, Private Industrial
21	Highway Maintenance Work	Bedford	108.9	01/04/2017	04/01/2019	Infrastructure

22	71 Residential & Commercial/Leisure Units	Bedford	95.5	20/07/2015	16/07/2018	New housing, Private Commercial
23	Industrial/Storage/Distribution Unit	East Northamptonshire	79.2	31/10/2018	31/12/2019	Private Industrial
24	Grade Separated Junction	Kettering	77.8	02/03/2020	02/03/2022	Infrastructure
25	383 Residential & 4 Commercial Units	Milton Keynes	75.7	28/05/2018	28/06/2022	New housing, Private Commercial
26	Office/Light Industry/Warehouse	South Northamptonshire	75.7	25/11/2018	25/08/2019	Private Industrial, Infrastructure
27	Residential & Commercial Development	Bedford	69.7	06/08/2018	31/05/2019	New housing, Private Commercial, Public Non-housing
28	5 Light Industry & Warehouse Units	Central Bedfordshire	66.4	16/09/2018	16/06/2019	Private Industrial
29	Industrial Unit	Corby	60.8	01/01/2018	01/10/2018	Private Industrial
30	Gas Fired Power Plant	Milton Keynes	58.3	15/07/2020	15/07/2022	Infrastructure
31	Supermarket/Hotel/Cinema/Restaurant/Pub Units	Cherwell	58.0	13/08/2018	06/04/2020	Private Commercial
32	Distribution Centre/Office & Vehicle Maintenance Unit	Bedford	54.8	20/04/2018	20/10/2018	Private Industrial
33	Prison Redevelopment	Wellingborough	52.9	05/11/2018	05/11/2020	Public Non-housing
34	1000 Residential Units & 1 Local Centre	East Northamptonshire	52.4	31/10/2018	30/11/2019	New housing, Public Non-housing, Infrastructure
35	9 Commercial Units	East Northamptonshire	50.4	01/07/2017	01/07/2020	Private Industrial
36	Canal Marina	Milton Keynes	50.4	04/06/2018	11/03/2019	Infrastructure, Infrastructure, Infrastructure
37	Employment Buildings	Cherwell	41.5	13/11/2017	14/09/2018	Private Industrial
38	871 Residential Units & 1 School (New/Extension)	East Northamptonshire	41.4	31/03/2019	30/04/2020	New housing, Public Non-housing
39	Retail Park	Cherwell	40.0	27/01/2019	27/01/2020	Private Commercial
40	2 Distribution Buildings	East Northamptonshire	40.0	27/11/2017	25/11/2019	Private Industrial
41	1050 Residential & 3 Commercial Units	Daventry	39.7	14/12/2015	10/12/2018	New housing, Public Non-housing
42	241 Houses	Aylesbury Vale	38.2	02/10/2017	01/12/2021	New housing
43	Framework Construction Partners	Milton Keynes	37.0	07/09/2015	09/09/2019	Public Non-housing
44	237 Residential Units	Cherwell	36.1	04/07/2016	28/06/2019	New housing
45	University Creative/Research/Learning/Sports Hub Development	Northampton	35.1	18/04/2016	17/08/2018	Public Non-housing
46	2 Distribution Units	Northampton	33.8	10/12/2018	09/12/2019	Private Industrial
47	Supermarket/Restaurant/Care Home & Retail/Commercial Units	East Northamptonshire	33.4	31/10/2018	31/05/2019	Private Commercial, New housing
48	600 Residential Units	Wellingborough	32.5	31/10/2018	30/11/2019	New housing

49	Storage	South Northamptonshire	31.2	16/11/2018	29/05/2019	Private Industrial
50	Leisure Building Development	Wellingborough	30.0	12/06/2017	13/08/2018	Private Commercial
51	Housing Development	Bedford	29.6	19/09/2016	29/09/2019	New housing
52	90 Residential Units	Cherwell	28.9	02/02/2017	02/01/2020	New housing
53	600 Houses/Flats/Extra Care Units	Bedford	28.9	01/07/2017	01/07/2020	New housing
54	5 Office/Industry/Laboratory/Warehouse Units	Kettering	28.8	20/08/2018	14/06/2019	Private Commercial, Private Industrial
55	Office Building	Milton Keynes	28.7	08/01/2018	30/08/2019	Private Commercial
56	230 Elderly Care Flats & 1 Village Centre (New/Conversion)	Bedford	28.5	03/01/2017	08/03/2019	New housing, Public Non-housing
57	492 Residential Units	Aylesbury Vale	26.6	03/08/2015	30/07/2018	New housing
58	National Electrification Framework	Milton Keynes	26.1	01/04/2014	01/04/2021	Infrastructure
59	4 Retails/2 Restaurants/1 Supermarket & Commercial Units	East Northamptonshire	26.0	31/10/2018	31/05/2019	Private Commercial
60	Distribution Warehouse & Offices	Milton Keynes	25.6	13/09/2017	13/06/2019	Private Industrial
61	157 Houses & 69 Flats	Milton Keynes	25.3	17/10/2016	31/12/2018	New housing
62	261 Flats/6 Commercial Units & 1 Flats	Milton Keynes	25.1	16/07/2018	16/07/2020	New housing, Private Commercial, Public Non-housing
63	Storage Building	Central Bedfordshire	25.0	15/05/2018	15/11/2018	Private Industrial
64	Bypass	Northampton	24.9	12/06/2019	09/06/2021	Infrastructure
65	137 Houses & 93 Flats	Milton Keynes	24.5	03/10/2016	31/12/2018	New housing
66	Distribution Centre	Central Bedfordshire	24.1	25/06/2018	28/06/2019	Private Industrial
67	Sports Centre	East Northamptonshire	24.0	09/04/2018	31/01/2020	Private Commercial
68	96 Flats/72 Houses/30 Townhouses/4 Bungalows	Bedford	23.6	27/02/2017	01/12/2019	New housing
69	139 Houses & Commercial/Community Units	Milton Keynes	22.6	08/01/2018	08/01/2020	New housing, Private Commercial, Public Non-housing
70	Vehicle Aero-Acoustic Test/Research Facility & Office	Daventry	22.1	22/01/2018	29/03/2019	Public Non-housing
71	195 Flats & 38 Houses	Luton	21.6	23/04/2018	23/04/2020	New housing
72	3 Industrial/Warehouse Units	Daventry	20.8	07/05/2018	02/12/2019	Private Industrial
73	Link Road	Daventry	20.6	18/07/2016	09/04/2018	Infrastructure
74	365 Residential Units & 4 Commercial Units	Central Bedfordshire	20.1	07/08/2017	03/09/2018	New housing, Private Commercial
75	Warehouse & Distribution Development	Bedford	20.0	16/04/2018	19/10/2018	Private Industrial
76	242 Houses & 120 Flats	Milton Keynes	19.6	01/09/2017	28/09/2018	New housing
77	21 Flats & 4 Convenience Store/Retail Unit	Milton Keynes	19.6	01/07/2017	30/11/2018	New housing, Private Commercial
78	Storage & Distribution Facility	Central Bedfordshire	18.8	15/05/2018	15/11/2018	Private Industrial

79	Shopping Centre (Redevelopment)	Milton Keynes	18.7	27/01/2019	27/01/2020	Private Commercial
80	287 Houses & 56 Flats	South Northamptonshire	18.6	31/10/2018	30/11/2019	New housing
81	2 Industrial/Distribution Building Units	Aylesbury Vale	17.9	09/07/2018	14/10/2019	Private Industrial
82	349 Residential Units	Northampton	17.7	15/02/2019	14/03/2020	New housing, Private Commercial
83	299 Houses & 20 Flats	Cherwell	17.3	20/08/2018	16/09/2019	New housing
84	321 Residential Units	Cherwell	17.2	18/06/2018	29/07/2019	New housing
85	2 Schools/1 Nursery/1 Cafe/1 Gym & 7 Flats	Northampton	17.2	22/08/2016	26/04/2018	Public Non-housing, Private Commercial, New housing
86	Leisure Centre (Extension/Alterations)	Central Bedfordshire	17.0	26/06/2017	14/09/2018	Private Commercial
87	300 Residential Units & 1 Retail Store	Cherwell	16.8	14/05/2018	18/05/2020	New housing, Private Commercial
88	304 Houses/Flats	Kettering	16.5	22/06/2018	22/12/2018	New housing
89	Multi Storey Car Park & Community Unit	Milton Keynes	16.3	25/09/2017	24/09/2018	Infrastructure
90	Roundabout (Improvements)	East Northamptonshire	16.3	02/12/2019	11/06/2021	Infrastructure
91	Convenience Store/Bank/Restaurant/Cafe/Pub	Milton Keynes	16.0	17/08/2018	20/12/2019	Private Commercial
92	Hotel & Marina	East Northamptonshire	15.3	11/09/2017	10/09/2018	Private Commercial, Infrastructure
93	Highway Authority Depot	Central Bedfordshire	15.2	05/03/2018	18/01/2019	Private Industrial, Private Commercial
94	Cancer Centre	Milton Keynes	14.8	04/06/2018	31/12/2019	Public Non-housing
95	School	South Northamptonshire	14.8	22/10/2018	23/10/2020	Public Non-housing
96	Flats	Aylesbury Vale	14.4	07/08/2017	04/02/2019	New housing
97	2 Warehouse & Distribution Units	Northampton	13.9	01/08/2017	14/05/2018	Private Industrial
98	175 Houses & 73 Flats	Milton Keynes	13.8	03/12/2018	30/12/2019	New housing
99	164 Houses & 76 Flats	Milton Keynes	13.4	23/07/2018	19/08/2019	New housing
100	194 Houses & 46 Flats	Milton Keynes	13.4	25/11/2018	25/12/2019	New housing
101	School	Aylesbury Vale	13.2	23/04/2018	28/06/2019	Public Non-housing, Infrastructure
102	211 Houses & 6 Flats	Central Bedfordshire	11.7	09/04/2018	06/05/2019	New housing
103	2 Offices/Research & Laboratory Units	Cherwell	11.5	08/08/2018	13/05/2019	Private Commercial
104	217 Residential Units	Central Bedfordshire	11.5	14/03/2019	10/04/2020	New housing
105	190 Residential Units	Aylesbury Vale	10.7	08/01/2018	04/02/2019	New housing
106	198 Houses	Cherwell	10.7	13/08/2018	09/09/2019	New housing
107	187 Residential Units	Central Bedfordshire	10.1	28/05/2018	24/06/2019	New housing
108	30 Enterprises Units	Northampton	10.0	03/12/2018	02/09/2019	Private Commercial

109	162 Houses & 20 Flats	Wellingborough	9.8	14/05/2018	10/06/2019	New housing
110	180 Residential Units	Central Bedfordshire	9.7	16/04/2018	16/05/2019	New housing
111	145 Houses & 114 Flats	Milton Keynes	9.7	25/09/2017	22/10/2018	New housing
112	122 Houses & 48 Flats	Milton Keynes	9.6	01/05/2018	01/06/2019	New housing
113	5 Supermarket/Non Food Retail & Retail Buildings	Daventry	9.5	30/07/2018	28/02/2019	Private Commercial
114	Truck Stop Facility (New/Alterations)	Daventry	8.7	12/07/2018	12/01/2019	Private Commercial
115	Switch & Crossing Track Works Framework	Milton Keynes	8.5	14/07/2014	08/07/2019	Infrastructure
116	Track Works	Milton Keynes	8.5	28/07/2014	29/07/2019	Infrastructure
117	Hotel	Luton	8.4	24/09/2018	24/04/2019	Private Commercial
118	University Technology Building (New/Refurbishment)	Luton	8.1	09/10/2017	08/04/2019	Public Non-housing
119	Development Works	Daventry	8.0	01/10/2018	08/04/2019	Private Industrial
120	Distribution Centre	Central Bedfordshire	8.0	05/09/2017	31/05/2018	Private Industrial
121	Office/Light Industry/Warehouse	Central Bedfordshire	7.7	27/01/2019	27/10/2019	Private Commercial, Private Industrial
122	Workshop & 3 Houses	South Northamptonshire	7.6	07/05/2018	04/02/2019	New housing, Private Industrial
123	3 Industrial/Employment Development Units	Cherwell	7.4	04/12/2017	17/09/2018	Private Industrial
124	Residential Units	Bedford	7.2	01/02/2018	30/11/2018	New housing
125	School	Luton	6.6	20/11/2017	22/03/2019	Public Non-housing
126	Museum (Extension/Alterations)	Aylesbury Vale	5.7	12/03/2018	11/03/2019	Public Non-housing
127	Industrial Unit	Northampton	4.4	31/10/2018	30/04/2019	Private Industrial
128	National Engineering & Construction Contract	Milton Keynes	3.2	01/04/2015	31/03/2021	Infrastructure
129	Medical Centre	South Northamptonshire	3.1	22/10/2018	22/07/2019	Public Non-housing
130	Nursing Home	Central Bedfordshire	3.1	09/04/2018	07/01/2019	Public Non-housing
131	Supermarket (Extension/Alterations)	South Northamptonshire	2.0	20/08/2018	24/09/2018	Private Commercial
132	Supermarket	Milton Keynes	1.0	13/08/2018	10/09/2018	Private Commercial

APPENDIX E. NICP PROJECTS IN SOUTH EAST MIDLANDS

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

Appendix Table 5: NICP projects in South East Midlands

	Name	Value (£m)	Start date	End date	Source
1	M1 Junctions 13 -19	263.1	01/04/2018	31/03/2021	NICP
2	Local Authority Major Schemes - Committed and Approved - East of England	98.4	01/04/2018	31/03/2021	NICP
3	Anglian Water: Wastewater Service AMP6	57.3	01/04/2018	31/03/2020	NICP
4	Luton Airport	44.6	01/04/2018	31/03/2021	NICP
5	Severn Trent Water: Wastewater Service AMP6	41.6	01/04/2018	31/03/2020	NICP
6	Severn Trent Water: Water Service AMP6	41.2	01/04/2018	31/03/2020	NICP
7	Highways Maintenance Block Funding (SR10 allocation) 1	38.2	01/04/2018	31/03/2021	NICP
8	Highways Maintenance Block Funding (SR10 allocation) 2	31.9	01/04/2018	31/03/2021	NICP
9	Local Authority Major Schemes - Committed and Approved - East Midlands	31.7	01/04/2018	31/03/2021	NICP
10	Anglian Water: Water Service AMP6	31.0	01/04/2018	31/03/2020	NICP
11	Eon Central Networks East (EMID) RIIO	25.1	01/04/2018	31/03/2021	NICP
12	Highways Maintenance Block Funding (SR10 allocation) 3	24.1	01/04/2018	31/03/2021	NICP
13	UK Power Networks - East (EPN) RIIO	18.5	01/04/2018	31/03/2021	NICP
14	Local Enterprise Partnerships Allocation for Transport in Strategic Economic Plans - South East	18.5	01/04/2018	31/03/2021	NICP
15	Local Enterprise Partnerships Allocation for Transport in Strategic Economic Plans - East of England	13.0	01/04/2018	31/03/2021	NICP
16	Integrated Transport Block 1	11.0	01/04/2018	31/03/2021	NICP
17	South East Development programme	10.4	01/04/2018	31/03/2021	NICP
18	Local Authority Major Schemes - Committed and Approved - South East	9.5	01/04/2018	31/03/2021	NICP
19	Integrated Transport Block 2	9.0	01/04/2018	31/03/2021	NICP
20	Integrated Transport Block 3	9.0	01/04/2018	31/03/2021	NICP
21	East of England Development programme	8.6	01/04/2018	31/03/2021	NICP
22	Affinity Water: Water Service AMP6	8.6	01/04/2018	31/03/2020	NICP
23	UK Power Networks - South East (SPN) RIIO	7.6	01/04/2018	31/03/2021	NICP
24	Local Enterprise Partnerships Allocation for Transport in Strategic Economic Plans - East Midlands	6.8	01/04/2018	31/03/2021	NICP
25	East Midlands Development programme	6.8	01/04/2018	31/03/2021	NICP
26	Scottish and Southern Energy Southern (SSES) RIIO	5.8	01/04/2018	31/03/2021	NICP
27	East Midlands Construction programme	5.7	01/04/2018	31/03/2021	NICP
28	National Productivity Investment Fund Round 1 East	5.2	01/04/2019	31/03/2021	NICP
29	Oxford - Western conveyance	5.1	01/04/2018	31/03/2021	NICP
30	National Productivity Investment Fund Round 1 East Midlands	4.8	01/04/2019	31/03/2021	NICP
31	South East	3.3	01/04/2018	31/03/2021	NICP
32	National Productivity Investment Fund Round 1 South East	3.2	01/04/2019	31/03/2021	NICP
33	South East Construction programme	2.6	01/04/2018	31/03/2021	NICP
34	Challenge Fund - Tranche 2A East Midlands	1.8	01/04/2018	31/03/2019	NICP
35	Challenge Fund Tranche 1 - South East	1.7	01/04/2018	31/03/2019	NICP
36	Southsea	1.6	01/04/2018	31/03/2021	NICP
37	Challenge Fund Tranche 1 - East of England	1.3	01/04/2018	31/03/2019	NICP
38	Challenge Fund - Tranche 2A South East	1.1	01/04/2018	31/03/2019	NICP

39	Challenge Fund - Tranche 2A East of England	0.6	01/04/2018	31/03/2019	NICP
40	Mine Water Treatment Schemes - New Scheme Build - East Midlands/Yorkshire	0.5	01/04/2020	31/03/2021	NICP
41	East of England Construction programme	0.2	01/04/2018	31/03/2021	NICP
42	East Anglia	0.0	01/04/2018	31/03/2021	NICP

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V1	25 Jun 18	Recommendations included & review
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V4	Nov 18	Final published with executive summary

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